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WORKING PLAN

FOR

THE BARGUR RANGE
OF THE
COIMBATORE NORTH FOREST DIVISION
1957-58 to 1971-72

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BY

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Under the Supervision of the Chief Conservator of Forests, Madras.

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INTRODUCTION.

The Working Plan of Kollegal Division comprising Kollegal, Ramapuram and Bargur Ranges written by Sri V. S. Krishnaswamy, M.A., I.F.S., was in force up to 31st March 1957.

A Working Plan Division for revision was formed on 27th July 1955. Due to States Reorganization with effect from 1st October 1956, Kollegal and Ramapuram Ranges were transferred to Mysore State and Bargur Range was retained in Madras State and was added to Coimbatore North Division. This revised plan deals with the Forests of Bargur Range only. The Working Plan Division at Kollegal was wound up on the afternoon of 30th September 1956, consequent on the reorganization of States. I was assisted in the preparation of this plan by a field staff of two Range Officers and four Foresters who did their job well.

The writer would take this opportunity to thank the Conservator of Forests (Development Circle) for his valuable advice and guidance and also the District Forest Officer, Kollegal, and his subordinate staff for their co-operation and assistance.

K. SHANMUGANATHAN,
Working Plan Officer.

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WORKING PLAN FOR THE BARGUR RANGE OF THE COIMBATORE FOREST DIVISION.

PART I

Summary of facts on which proposals are based.

CHAPTER I—THE TRACT DEALT WITH.

SECTION 1 —NAME AND SITUATION.

1. *Name.*—This Working Plan deals with the Bargur Range of the Coimbatore North Forest Division, as constituted at present, comprising of part of the forests in the Bhavani taluk of Coimbatore district and a part of the forest areas lying in the Omalur taluk of the Salem district. The total extent of this tract is 159,975·02 acres or about 250·0 square miles, approximately.

2. *Situation.*—This range lies between 11° 45′ and 12° North latitudes and 77° 25′ and 77° 47′ east longitudes. The river Palar, a tributary of the Cauvery forms the boundary of this tract on its western and northern sides and Cauvery itself forms the eastern boundary. On the other side of Palar to the west and north lie the forests of the Ramapuram range of Kollegal Forest Division which was transferred to Mysore State on 1st November 1956 consequent on the re-organization of States. The forests of the Bhavani Range and the Andiyur-Ammapet road mark off the southern limits of this range. But for the area surrounding the Palamalai Reserve Forests, the tract is generally thinly populated and forms a compact block of forests of varying quality and density, interspersed with enclosures of cultivation, mainly of dry crops such as ragi, cholam and (mochai) country beans.

SECTION 2—CONFIGURATION OF THE GROUND.

3. *Physical features.*—The Bargur Plateau, forming the Western half of this range is a high level plateau of an average elevation of about 3,200. This is cut up by numerous ravines which drain into the river Palar and the Maniyarhalla, which is by itself a tributory of the Palar. The outer slopes of this plateau on the eastern and southern sides fall abruptly to the plains of the Bhavani and Omalur taluks. The Palamalais, which are a separate unit from the Bargur plateau, form an almost isolated block of hills with its length running parallel to the Cauvery. Elevations of over 3,000 are observed in these hills. On the north-eastern parts of this range, there is a low lying plains area, which forms a contiguous forest tract with the Bargur Plateau, but the elevation is about 800′. This area is near the Cauvery.

4. *Drainage.*—The important streams of this locality are the Palar, Maniyar halla and the Dinapattipallam. The latter two drain into the Palar, which in its turn drains into the Cauvery. All these streams are sedom perennial and dry up almost completely during the summer leaving only small pools of stagnant water. During years of severe drought, the cattle of this locality suffer very badly for want of water. It is not an uncommon sight during this period to see the graziers digging large sized pits in the sandy bed of these streams and water their cattle in the little springs that come up.

SECTION 3—GEOLOGY, ROCK AND SOIL.

5. The underlying rock is the Archaean gneiss and geologically this area is a continuation of the rocks of Mysore Plateau forming more or less, part of the Dharwar system. The soil derived from this gneissic rock varies from rich red ferruginous sandy loam to black clayey soil. The soil varies from place to place in depth, structure and composition depending on the local configuration of the ground. In general, over most of the forest area, the soil conditions are not very conducive to good vegetative growth, being poor, shallow and stony without infrequent outcrops of the underlying rock. At the bottom of the valleys good, fertile soil is found, generally of a fairly good depth.

6. *Minerals.*—Kyanite and asbestos are found to occur in the Bargur Plateau. Specimens of banded haematitic quartzites are seen in the the lower reaches of Bargur Plateau near Ullurthanda.

SECTION 4—CLIMATE.

7. *Temperature.*—The tract in general except in the Palar basin and the low lying areas of Omalur taluk enjoys a mild and equable climate throughout the year. The nights are cool and pleasant and days are not very hot. The Palar Basin and the adjacent areas are generally very hot, especially during summer, when the maximum temperature often reaches 100° F or more.

8. *Rainfall.*—A statement showing monthly rainfall recorded in the various localities from 1943 to 1954 is given in appendix II. The figures for the earlier periods can be had from the earlier Working Plans of Kollegal Division. The average rainfall, as can be seen from the figures available in the appendix referred to above, is generally low during the period under report as was the general case all over the country. It may be pointed out, however, that on account of extreme variations in the general annual rainfall and the conditions of drought that existed over a bulk of the period to which the figures relate, the averages given, cannot be relied upon very much, as representing the correct state of affairs. The principal rainy period of the range is during the North-East monsoon, and occasional bursts of severe thunder storms (Summer storms) occur during April and May in these localities. The driest months of the year are from January to May and acute conditions of distress are not uncommon, during the years of low rainfall when the streams and most of the wells dry up. The rainfall received in this tract, as can be inferred, is capable of supporting only an inferior scrub (deciduous) type of forest and as the amount of rain precipitated is adequate for Sandal, this species thrives well all over the Bargur Plateau and the top reaches of the Palamalais.

9. *Health*.—Malaria is known to prevail all over the forest tracts of the range though the incidence is not so heavy as it was a decade back, thanks to the intensive anti-malarial measures carried out in the recent past, all over these areas, by the special staff of the Public Health Department. The rainy months are considered to be less feverish.

SECTION 5—WATER-SUPPLY.

10. *Water-supply.*—The rainfall over this locality is very meagre, averaging about 30″ annually. Hence the water-supply of this range is, ordinarily very poor. The important streams of this locality are the Palar, Maniyarhalla and Dinapatti Pallam which provide water for the localities nearby. But in the years of drought when even these streams dry up the position of water-supply becomes precarious and alarming. The population on the plateau depend on deep wells and shallow ponds for their supply of water. The ponds dry up early in summer and the wells, frequently of great depth, also dry up in years of drought, causing acute distress to men and cattle. These conditions are due to the frequent fires that rage over the forest tracts of the region which form the catchment area and the heavy grazing over these catchment areas.

Water-supply near pens still continues to be ineffective though there are wells near quite a few of them. The position needs improvement. Water-supply near Forest buildings is generally inadequate.

SECTION 6—DISTRIBUTION AND AREA.

11. The Bargur range with its headquarters at Mettur Dam is 250 square miles in extent and all the reserves of this tract come under class I-Forests--State remunerative. The detailed list of reserves is given :—

(LIST OF RESERVED FORESTS IN BARGUR RANGE.)

Name of Reserved Forests.	*Number and date of section 16 notification.*	*Number and date of Board Proceedings communicating section 16 notification.*	*Page and date of the Fort St. George Gazette.*	*Area of Reserves.*	*Remarks.*
(1)	(2)	(3)	(4)	(5)	(6)
		BARGUR RANGE.			
				ACRES.	
North Bargur	228, dated 15th May 1893.	492, dated 20th June 1893.	461 dated 29th May 1893.	117,478·50	
North Bargur revised boundary description	405, dated 6th July 1914.	Do.	Do.	117,478·50	
Athimalai (hamlet of Bargur)		..	1110 dated 6th July 1914.	21·32	
Doddasolaganai	206, dated 21st May 1919.	Do.	Do.	2·62	
Chinnasolaganai	Do.	Do.	Do.	15.46	
Tadipadugai (hamlet of Bargur)	Do.	Do.	Do.	7·64	
Karanapatti (hamlet of Burgur)	Do.	Do.	Do.	18 61	
Muthugadoddi (hamlet of Burgur)	Do.	Do.	Do.	2·87	
Alani (hamlet of Bargur)	Do.	Do.	Do.	22·12	
Valancombai (hamlet of Nadukaval)	Do.	Do.	Do.	2.93	
Malayampatti (hamlet of Nadukaval)	Do.	Do.	Do.	4·30	
Math.npatti (hamlet of Nadukaval)	Do.	Do.	Do.	2·15	
Jellipalayam	Do.	Do.	Do.	15·67	
Sundapalayam	Do.	Do	Do.	10·88	
Palar	Do.	Do.	Do.		
Tamarakerai	437, dated 28th November 1902.	441, dated 2nd December 1902.	1209 and 1210, dated 2nd Decmber 1902.	7,577·60	
Do.	62, dated 15th January 1914.	Do.	188, dated 15th January 1914.	..	
Pachaipalaimalai	367, dated 11th August 1903.	189, dated 1st September 1906.	921 and 922, dated 28th August 1906.	5,221·60	*
South Bargur Reserved Forest	318, dated 9th June 1803.	507, dated 3rd July 1893.	698 and 699 dated 20th June 1893, and		
	100, dated 4th February 1914.		303 and 304 dated 3rd March 1914.	6,251·80	
South Bargur (Part)	162, dated 6th July 1921.	Do.	738, dated 12th July 1921.		
	344 and 345, dated 12th October 1926.				
Palamalais Reserved Forest.			....	23,318·94	†
			Total area in Bargur Range ..	1,59,975·02	

NOTE.—The area in column (5) is the net area after deducting the disreserved areas up to the end of 1932.

* Revised boudary description

† Transferred from North Coimbatore.

SECTION 7—STATE OF THE BOUNDARIES.

12. *Boundaries.*—The state of the boundaries is generally satisfactory but encroachments have been observed in some of the enclosures.

SECTION 8—LEGAL POSITION.

13. *Reserves.*—The reserved forests are the absolute property of the State, subject to certain specified rights and concessions admitted at the time of settlements and subsequently thereafter.

14. *Unreserves.*—In the unreserves, the State has absolute right over the sandal occurring on these lands. The right of the State over the patta Sandal trees is dependent on the date of assignment of such lands on patta. The legal position regarding Sandal in patta lands is given below :—

(1) Lands assigned on patta prior to Board's Proceedings No. 14, dated 19th January 1907.

On such lands, the Government have no clear title to the Sandal trees.

(2) Lands assigned in Kollegal, since the issue of the Board's proceedings referred to above up to the date of G.O. No. 1290, Revenue, dated 16th June 1928 on such lands according to legal opinion the trees existing at the time of assignment shall be considered to be the property of the State even if the terms of the Board's proceedings have not been carried out in any or all particulars. But trees which have come in since the assignment must be held to be the property of the pattadar.

(3) Lands assigned after the issue of G.O. No. 1290, Revenue, dated 16th June 1928—On such lands, the existing and future Sandal are the property of the State.

CHAPTER II—THE FORESTS.

SECTION 1—COMPOSITION AND CONDITION OF THE CROP.

15. *General description.*—The forests of this range are situated in tracts varying in altitudes from about 800′ to nearly 5,000′ above mean sea level, the highest point being 4,922′ above mean sea level, in the Palamalais. Considerable variations in the composition and condition of the forests are observed. These forests can generally be described as an associate formation of Mixed deciduous species. The forest growth in the plateau and along the main stream banks in the low lying localities is better in size, qualitiy and density of stocking than that observed in the low lying localities. Sandalwood occurs in good quantity in the Burgur and Palamalai Hills and is comparatively rare and sometimes absent in the localities lying in the lower eastern slopes of these hills. Retrogression from the climax type is apparent in many places, due to the influence of men as manifested by theft, fire and overgrazing. But where such retrogression has not taken place the floristic composition is the general result of the direct and indirect effects of altitude, climate and the configuration of the country.

16. *Forest type.*—The forests of this range can broadly be classified into the following types.—

1. (*a*) South Indian dry deciduous type—Superior.

   (*b*) South Indian dry deciduous—Inferior.

2. Southern Thorn Forests—Scrubs Jungle.

17. 1 (*a*) *South Indian dry deciduous type—Superior.*—These forests are found in the higher reaches of the Bargur and Palamalai hills and contain a good distribution of well stocked Sandalwood. Though most of the important and popular timber species are found in this type here they are not of such quality and quantity to be worked regularly and profitably under any recognised systems of management. Patches of teak are seen around the Thattakarai, Thamarakarai, Thalakarai and Dolli enclosures on the Bargur Plateau and along the ridge of the Palamalis.

The soil in general is good but the depth is not sufficient enough to support a better quality of forests Rocky outcrops are frequently met with.

The species commonly found in these forests are :—*Albizzia amara, Albizzia odoratissima, Atlantia monophylla, Banhimia racemosa, Canthium didymum, Chloroxylon swietinia, Dalbergia latifolia, Dalbergia paniculata, Elæocarpus serratus, Elæodendron glaucum, Eugenia jambolana, Gmelina arborea, Morinda tinctoria, Premna tomentosa, Pterocarpus marsupium, Santalum albur, Sapindus emarginatus, Strychuos Nuxvomica Strychnos potatorum, Tamarindus indica, Tectona grandis, Terminalia balerica, Terminalia chebula, Terminalia tomentosa, Terminalia arjuna, Wrightia tinctotia, Zizyphus jujba, and Zizyphus trinervia.*

18. 1 (*b*) *South Indian dry deciduous type—Inferior.*—These forests occur on the outer slopes of the Burgur and the Palamalai hills at elevations between 1,200′ and 3,000′. These sopes are barren and rocky in many cases. While frequent fires are the main contributory factors to this poor condition of deteriorated growth in the Burgur hills large scale illicity activities of the public has to a major extent, been responsible in bringing about a poor, stunted and separesely stocked forests on the Palamalai slopes. The result of this 'slaughter of the forests' by the human element is, that over large tracts of forests no appreciable growth of useful species can be seen and an almost pure crop of the useless *Gyrocarpus jacquini and Dodonœa viscosa* is a feature quite commonly met with.

The principal species that occur in the forests falling under this type are.—*Albizzia amara, Acacia leucophloea, Anogeissus latifolia, Atalantia monophylla, Bambusa arundinacia, Coneya arborea, Dendrocalamus strictus, Grewia species, Gyrocarpus jacquini, Givotia rottleriformis, Hardwickia binata, Terminalia chebula, and Zizyphus xylopyrus.* The undergrowth consists mainly of *Acacia intsia, Acacia pennata, Grewia hirsuta. Phoenix acaulis, and Randia species.*

Hardwickia type.—*Hardwickia binata* appears almost as a pure crop on the steep slopes on either side of the ghat road from Girigaikanday to Thattakarai. This area is subiected to frequent and almost annual fires and this species being firehandy, has established itself well on this rocky outcrop of quartzoze formation. Very few trees of any other species are found here.

19. *Southern Thorn forests—Scrub jungle.*—These forests occur in the sub-montane regions of the locality at altitudes varying from 800′ to 1,200′ above mean seal level. They from a narow trip occupying the foot of the Bargur and the Palamalai hills. Forests near Ullunthanda, Kumarayyanur, the entire Pachapalamalai Reserved Forests and the entire outer fringes of the Palamalai reserved forests fall under this type. The growth is a degraded scrub with thorny species predominating stunted, open and almost xerophyfic in condition. The soil is generally shallow and hard and rocky outcrops are frequently met with. The chief species commonly found are *Acacia latronum, Acacia leucophloea, Acacia sundra, Albizzia amara, Azadirachta indica, Balsamodendron berryi, Canthium didymum, Chloroxylon swietinia, Cordia monoica Dichrostachys cinerea, Erythroxylon monogynum, Gyrocarpus jacquini, Givotia rottleriformis, Hardwikia binata, Morinda tinctoria, Protium caudatum, Zizyphusjupuba, Zizyphus trinervia and Zizyphus xylopyrus. Along with these Carissa carandas, Cassia auriculata, Dodonaea viscosa, Pterolobium indicum, Randia species, Solanum pubscens, Toddalia gracilis and Zizphus oenoplia* are also seen in large quantities.

20. In the lower slopes of the Palamalias, there are definite indications that the stumps of valuable species felled have failed to throw out shoots in sufficient numbers and even where the copice shoots must have appeared, they seem to have been backed and removed illicitly by the public. Natural regeneration of this species is also very poor due to the very adverse soil and elimatic conditions. This is markedly observed in felled fuel coupes, where the stocking of valuable species is very poor if not altogether absent. On the other hand useless softwooded species such as *Gyrocarpus jacquini, Euphorbia antiquorum, Vivotia rettleri formis, etc.*, appear as almost pure crops with equally valueless shrubs like *Dodonœa viscosa.*

21. *Sandal.*—Sandal deserves special mention in this chapter as it occurs in large numbers, well distributed all over the Burgur plateau and the higher elevation of the Palamalias. Even in areas of pure bamboo, sandal is seen. General observations are that Sandal occurs dense around enclosures and cleanings and tends to become rather sparse away from these. Grazing and repeated fires limit the extension of this species. Natural regeneration of sandal is generally observed amidst bushes and is one of the earliest tree species to appear in abandoned cleanings as the bushes in these cleanings protect the young seedling from exposure from cattle and wild animals.

Strike is seen in the areas near Thattakarai, Koilnatham and Bejjalatty enclosures but does not seem to be virulent at present. As a matter of fact local enquiries reveal that the incidence is on the decline.

22. *Bamboo.*—*Dendrocalamus strictus* occur extensively in more or less pure patches in this range. *Bambusa arundinacea* is confined only to stream banks and higher moist areas the moist areas and is very much limited in occurrence. Bamboo is rare in the Pachapalamalai reserved forest and the lower slopes of the Palamalais. The limits of the effective bamboo area were stockmapped last during the preparation of the 1942-43 working plan. These were again stockmapped now to assess the growing stock and to arrive at the possible quantity of bamboo that may be available for supply as raw material for a paper pulp factory proposed to be located at Mettur Dam. The effective area as per the present stockmapping is 50,746 acres as against 48,188·5 acres according to the previous stock-mapping. The effective area of bamboos in the Palamalis, recently transferred to this range from the Bhavani Range is 1631 acres.

23. *Flowering of bamboos.*—Sporadic flowering of bamboos is observed at present in the limits of the Koilnatham and Devarmalai bamboo series. Flowering of Bamboos was rather gregarious in 1953–54 all over, but the stocking appears to have recovered remarkably well. Records of earlier flowering are given in detail in paragraph 105 of the working plan for the Kollegal division by Sri C. R. Ranganathan (Chief Conservator's Proceedings No. 373, Press, dated 12th August 1934).

24. *Stockmapping.*—In connection with the revision of this working plan stock mapping was confined only to the stocking of the following :—

1. Bamboo stock in this range to locate changes if any, in the limits shown in the maps of the earlier working plan and to assess the probable yield of raw material to the paper pulp factory proposed to be located at Mettur Dam and (2) quantity of Sandalwood available in the village sandal working circle.

SECTION 2—INJURIES TO WHICH THE CROP IS LIABLE.

25. *Wind.*—The monsoon winds when they do not bring in rains often have a dessicating effect on the seedlings. The heavy winds also develop a sort of a lop-sided development in the trees in the open. The tract is usually subjected to heavy winds even during February and March and the impetus these winds give to the forest fires is a terrible menace to the forests.

26. *Drought.*—During years of poor rainfall which are not few and far between in these places, the mortality among the vegetative growth due to the leading shoots dying up is not uncommon. This affects the younger seedlings to a large extent. Attempts to afforest the dry fuel areas over this tract in the concentrated regeneration plots (Conservator's plots) since 1953 have not been very successful—the main reason being lack of seasonal rains and the resultant drought—Stagheadedness of Sandal observed in some localities on the plateaux has also been attributed chiefly, to drought. Long periods of drought, also result in accumulation of a large quantity of dried up leaves, and other inflamable materials and these accelerate and encourage heavy fires over the forest tract.

27, *Injurious plants.*—Creepers and climbers are a menace in young fuel coupes and to the Sandal trees. Most of the sandal trees of the locality, especially those in the reserves are found to be infested with climbers, the troublesome among them being *Peteorlobiunt indicum, Acaoia Pennala, Acacia intsia and Zizyphus oenoplia.*

28. *Loranthus and Cuscuta reflexa* are the common parasites seen, but there is no data available, to assess the extent of damage caused.

Injury due to animals—(a) Cattle.—Large number of cattle resort to the reserve forests for grazing. In all the accessible areas, where over-grazing is in evidence, these cattle are responsible for much browsing of the tender leaves of the valuable species, including sandal, apart from the mechnical damage they do by hardening the sub-soil.

(b) *Wild animals.*—Elephants usually restrict their activity to forests on stream banks and the bamboo areas. They are found in large numbers along the banks of the rivers cauvery and Palar and also on the higher hills. In general elephants break a lot of young seedlings, thus deplecting the stocking in the forests, Sambhur browses freely on tender leaves and shoots of all valuable tree species and young regeneration areas and felled fuel coupes seem to attract these mostly. Spotted deer, jungle sheep and hares are also seen.

The damages due to insects is too insignificant to warrant any special mention.

29. *Injuries due to human agency.*—Man's inevitable agencies of destruction are fire and theft and both are rampant in this range and are serious and recurrent.

30. *Fires.*—Fires in these parts are principally caused by the graziers to promote the growth of tender grass for their cattle and also to get the grass early in the season. These fires are frequent here and are responsible for destroying lot of young regeneration of tree species. Apart from the graziers, fires are also caused to admit an easy and safe passage along footpaths, to facilitate easy collection of certain minor forest products by the labourers and by the jungle tribes for collection of certain tubers which they eat. Instances are not infrequent when fires have been caused by our subordinates due to careless execution of fire tracing operations. The generation of sandal is very much adversely affected by fires, as the sandal seedlings are extremely fire tender.

Chloroxylon swietenia another extremely fire tender species, is found to have very nearly disappeared in the frequently fire-burnt slopes.

31. *Theft*.—The forest tracts situated close to cultivation are usually subjected to theft as the ryots usually prefer to get their equipments for agricultural implements, fuel and manure leaves themselves from the forests by illicit means. *Chloroxylon swietenia, Acacia arabica, Acacia leuoophloea, Acacia sundra and of the Albizzia species* are among some of the much valued timber for production of agricultural implements. Large scale illicit removals of fuel in head-loads have resulted in the complete denudation of the forests on the eastern slopes of the Palamalias. It is gathered that about 500 head-loads of fuel are being removed daily and taken over for sale to Mettur Dam and this has been going on over the last decade or so and has reduced this slope of the Palamalais almost to a barren rock of loose boulders with very little vegetation. Even now these activities are carried on and these head-load smugglers are found to collect their fuel, in very remote areas and on steep hill slopes and walk over long distances (sometimes over 8 to 9 miles) to Mettur Dam to sell this and most of them make a regular living by stealing firewood from the reserve forests and have become almost incapable of doing anything else to eke out their livelihood.

Bark stripping of sandal has been observed usually near footpaths and roads. It is stated that the villagers use the sandal bark, which has an astringent taste, for chewing with betel leaves. In the reserves near villages, large scale felling and bark stripping of trees such as Acacia leucophloea are observed for purpose of illicit distillation of intoxicant liquors.

Spike disease in sandal is not as prevalent now as it is reported to have been about a decade back. The causes, effects and control of spike disease in sandal have been subjects of silivicultural examinations for over long periods and much literature has been published over it by the Forest Research Units. But the fact remains that no means of complete and effective control over this disease has been achieved so far.

CHAPTER III—UTILISATION OF THE PRODUCE.

SECTION. 1—AGRICULTURAL CUSTOMS AND WANTS OF THE POPULATION.

32. *Agricultural customs*.—The people of this tract are mainly agriculturists and the principal landholders are the Kannada-speaking Sivachars. The crop cultivated is mostly country beans (*Dolichcs lablab*) cholam, ragi, chillies, etc., on dry lands and wet cultivation is confined mostly to areas lying along the fringes of the Stanley reservoir and irrigated areas along the Madras Trunk Road.

33. *Wants of the population*.—The main requirements of the population from the forests are (1) small timber for building and agricultural implements, including carts (2) fuel for domestic consumption and for industries such as the Sandalwood Oil Factory and other industries in Mettur Dam (3) grazing and penning facilities for cattle (4) bamboos for building purposes; and (5) other requirements such as green manure for the wet cultivated lands, *Dodonaea viscosa* fuel for use in potteries, etc.

34. *Agricultural implements*.—The main species used for agricultural implements are *Chloroxylon swietenia, Acacia arabica, Acacia sundra, Acacia leucophlœa; Albizzia amara* and *Azdirachta indica*. The ryot's choice is, however, restricted to the species available in the locality as it is not always possible to obtain the species referred to in all the localities. The species most prized as suitable for this purpose is *Chloroxylon swietenia*. For country carts, teak is most favoured and is preferred to all other species. This is used in the construction of all the components of the cart, such as, spokes, felloes, frame-work, etc. *Hardwickia binata* is also used for the framework and axle boxes whereas *Acacia arabica* is utilized in the manufactuure of axle boxes and solid wheels of some of the carts. In the construction of buildings, teak, *Terminalia tomentosa, Grewia tiliaefolia, Pterocarpus marsupium and Acacia sundra* are commonly used, depending upon their availability, for posts, beams, rafters, etc., though bamboo (*Dendro calumus strictus*) is most commonly used as rafters in most of the houses, where pot tiles are used for roofing.

35. *Fuel*.—The demand for fuel is very great in Mettur Dam and now that the tree growth in all the reserved forests in proximity of this town has completely been destroyed as a result of large scale illicit activities of the local population, the fuel position in Mettur Dam is alarming. The fuel requirements of the neighbouring villages are normally met with only by the reserved forests for in the course of the last decade, most of the growth in patta lands and unreserves has been completely used up. One sees very little or no tree growth at all over the bulk of the unreserves and patta lands. The lack of any fuel in the unreserves and patta lands, has resulted in the local population of many a village in this locality, resorting to obtaining their fuel requirements mostly from the resources of the reserved forests by unauthorized means. Fresh fuel coupes will have to be laid-out in parts of the reserved forests which are not within close proximity to this town, but which at the same time, are not too far away to result in heavy cost in transport.

36. *Grazing*.—Since agriculture and cattle breeding are the important occupation of the people, there is, naturally a large number of cattle in this tract and the resultant demand for grazing facilities is high. The reserves of this tract are, however, adequate enough to meet this demand. Grazing fees now in force are four annas per cow unit and the grazing year is from 1st September to 31st August. The statement showing the incidence of grazing in this tract is given in Section 5 of this chapter. Penning of cattle is popular in this area and the cattle are penned during the non-agricultural seasons. The penning licences are sold at rupee one per owner per annum up to 100 cattle or part thereof, if in one range and if penning is desired to be done over the entire division an enhanced rate of 50 per cent over the ordinary rates is levied.

37. *Bamboos*.—There is enough stocking of bamboos in the unreserves of most of the localities in the Burgur plateau to meet the demands of the local population. The bamboos of this locality have made a name in the market and are transported to far-off places in Tiruchirappalli and Tanjore districts to meet the demand of the population there, for construction of huts, small houses and in garden plantations. In the other parts of this range, bamboo occurs in patches and is generally sparse in density and poor in quality.

38. *Other requirements*.—There is a great demand for green manure for the wet cultivated lands near about Kulathore and other places. The potters all over the locality seem to have a preference for *Dedonœa viscoss* fuel. They collect this from the reserves and unreserves.

SECTION 2—MARKETABLE PRODUCTS.

39. *Timber*.—The forests of the Bargur range do not produce timber of any good quality and hence these forests are not worked for timber. Stray trees of good teak are found near Talakarai and Koilnatham, bordering the higher reaches of the Bhavani range of this division. Whatever is available is often times found to be cut and removed by the local people in the Bargur plateau and used for minor building purposes. *Terminalia paniculata* and *Pterocarpus marsupium* are also seen in this locality.

40. *Firewood*.—The main market for fuel is Mettur Dam. The position of fuel supply to Mettur town needs careful thought and planning. The fuel demand of this industrial and well-populated town is very great. The Palamalai reserved forest which fringes this town and which has recently been transferred to this range from the Bhavani range has been subjected, to an alarming extent, to illicit removals of fuel over a fairly long period and has been more or less completely depleted of all forest growth in the accessible areas. This was the main source of fuel serving the domestic needs of the Mettur populce. There are still large areas in other parts of this range in close proximity and it is desirable to work larger and more number of fuel coupes in this locality than hitherto to supply the needs of Mettur Dam. This is proposed to be done now and working larger areas for fuel will not in any way depress the market conditions.

41. *Sandalwood*.—The entire output of sandalwood of this area, which is a fairly large quantity, is transported, and sold at the Satyamangalam depot. The principal buyers are the distilleries of Bombay, Kuppam, Kanouj, Mangalore, Mettur, Tiruppattur and Salem.

42. *Sandal oil*.—The oil that is obtained by steam distillation from the sandalwood is used in soap-making, as a base in perfumery and in the drug industry. The oil is exported chiefly to the United States of America and France and is an important ' Dollar earner ' to our country. The oil contains about 90 to 95 per cent of santa oils. The average yield of oils from different parts of the tree is given below :—
Roughly 120 pounds of oil can be extracted from a ton of sandal heartwood.

Portion of the tree.	*Percentage of oil.*
Roots.	6 to 7
Billets, class I	5 to 6
Billets, class II	4 to 6
Chilta	3

43. *Markets for sandalwood of Madras*.—The sandalwood oil distillation industry in India takes in about 60 per cent of the departments output of sandalwood. A small percentage of the wood is used for carving fancy articles, for grinding into paste and as an incense by Hindus on festive and religious occasions and for feeding the sacred fires in the Parsi fire temples.

44. *Grazing*.—As has been mentioned earlier, cattle breeding is one of the main occupations of the people of this locality and hence the demand for grazing is considerable. The cattle fair held annually at Madeswaranmalai and Gurunathaswamy temple near Andiyur during the festival days, attract a large number of cattle breeders with their cattle and heavy transactions are normally made at these places. Grazing brings in a sizable amount and figures prominently among the revenues realized in the range.

45. *Bamboos.*—Both *Dendrocalamus strictus* and *Bambusa arundinacea* occur in the range but the former is the predominent species. *Bambusa arundinacea* occurs only along stream banks and in the higher localities. Bamboos from the eastern slopes of Madeswaranmalai and Ponnachy plateaux and the Uthopium valley of Ramapuram Range of Kollegal Division are carted to the Cauvery and transported in coracle to Mettur Dam along with those occurring in Ullurthanda and Palar localities. Bamboos from the Bargur plateaux are carted down to Andiyur and transported to Karur, Tiruchirappalli and other east coast centres. In many cases, the bamboo has to be transported by head-loods over long distances to the road side. This, coupled with lack of well-maintained motorable roads and other means of easy and cheap transport, makes it non-profitable to work over most of these areas completely. If and when cheap and easy means of transport becomes possible, the revenue realized by sale of bamboos in the range which is fairly high as it is, will increase manifold and the large bamboos resources of the range can be tapped economically and profitably.

There is a proposal to have a paper factory at Mettur Dam and if this proposal materialises, the large quantity of bamboos in this range will find its way to the factory and the range can maintain a sustained supply of a fairly large quantity of bamboos. These proposals for utilizing the bamboos of this range for paper pulp have been made even earlier in a scheme prepared by Sri C. R. Ranganathan in his working plan of this division. This scheme was further re-examined by Sri E. A. Lasrado during 1938–39 and further revised by Sri V. S. Krishnaswamy, at the time of his revising of the working plan of this division. Detailed stock mapping of bamboos in Bargur range was done now to assess the stocking with a view to arriving at the quantity of bamboos that can be supplied for this purpose.

46. *Tan stuff.*—Chebulic myrabolam, Konnai (*Cassia fistula*) bark and avaram (*Cassia auriculata*) bark are collected in this range and absorbed by the tanning centres locally and elsewhere.

47. *Stone and tree moss.*—Stone and tree moss occurring in this range are being leased out. These are collected and transported to Bangalore where they are believed to be used in the dyeing industry.

48. *Honey and wax.*—These are collected departmentally.

Tamarind.—Tamarind is collected through contractors and the market for tamarind in this range does not appear to be attractive at present.

49. *Other minor forest produce.*—Date leaf, korai grass, shekoy, soapunt, pungam seeds, etc., are among the other items of minor forest produce collected.

SECTION 3—LINES OF TRANSPORT.

50. *Lines of transport.*—Mettur Dam, the headquarters of this range, is a railway station. Andiyur, the main market and collecting centre of the bulk of the produce collected from the Bargur plateaux is only 18 miles from Erode, an important railway junction. But the forest tracts of this range are not well served with good all-weather roads. The Kollegal-Andiyur road is the important road serving the Bargur plateau. This road is metalled only up to the Palar, where it enters this range. A portion of the road from Andiyur is being metalled now. But its entire length of about 20 miles lying on the plateau is unmetalled and needs considerable repairs before it can be advantageously used as an all-weather road. All the forest products, such as bamboos, sandalwood, etc., of the Bargar plateau are transported in lorry loads and cart-loads over this road to Andiyur. The bamboos on the northern slopes and on the plains lying to the north of this plateau are transported by the Gingaikandy road up to Surakaimaduvu and then diverted along the Surakaimaduvu-Ullurthanda road. These roads are not negotiable during the monsoon as they are only fair weather roads and also as there are many unbridged streams like the Palar, Dunapti Pallam, etc., across these roads which get into floods frequently during the rainy months. Part of the road from Ulluthanda to Mettur Dam (via) Kulathore gets submerged when the water of Stanley reservoir reaches over 90 feet and hence this road is not available for through traffic from June to November normally.

Bamboo, the main produce of the Bargur range, is mainly transported to Andiyur and Mettur Dam where it is sold locally and also transported by rail to far-off places in Tiruchirappalli and Tanjore districts.

SECTION 4—METHODS OF EXPLANATION AND THEIR COSTS.

51. *Extraction of sandal.*—Sandal is extracted departmentally. The details of cost of extraction, rough-cleaning and transport to forest depots are as follows :—

(1) Extraction, rough cleaning and transport to forest depot, Rs. 0–6–9 per quarter or Rs. 33–12–0 per ton.

(2) Extraction of sandal wood trees and transport to forest depot—

Girth.	*Per tree.*		
	RS.	A.	P.
0″–6″	0	0	4
7″–12″	0	0	8
13″–18″	0	1	0
Over 10″ and up	0	1	9

(3) Transport from forest depot to roadside depot, Rs. 5 per mile per ton.

After rough-cleaning the sandalwood is transported to the sale depot at Satyamangalam. The cost of transport per ton per mile from the forest depot is Re. 0–15–0 per mile per ton in ordinary tract and Re. 1–6–6 per mile per ton in special tract. Final cleaning and other charges at Satyamangalam depot work out to about Rs. 20 per ton of rough-cleaned sandalwood.

52. *Other products.*—The other products like fuel, bamboo, minor forest produce, etc., are all seldom contract system. Honey and wax are collected departmentally at a cost of Re. 0–3–9 and Re. 0–4–6 per lb. respectively.

53. *Sale of grazing permits.*—The grazing and penning permits are sold by Range Officers and approved Foresters, direct to the public.

54. *Cost of extraction.*—The cost of extraction of different kinds of products, except sandal, collected in this range is given in appendix IV.

SECTION 5.—PAST PRICES.

55. The prices obtained in this range in the past for sandalwood, timber, fuel, bamboos and minor forest produce are given in the following statements :—

(1) Statement showing the prices fetched by the sale of bamboo coupes :—

STATEMENT I

Statement showing the revenue realized by the sale of bamboos in Bargur Range from 1942–43 to 1954–55.

Serial number and Name of series. (1)	1942–43 (2)	1943–44 (3)	1944–45 (4)	1945–46 (5)	1946–47 (6)	1947–48 (7)	1948–49 (8)
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.		
1 Bargur series	8,005 0 0 along with 2, 3, 4, 5 and for 3 years.				8,155 0 0 along with 4, 3, 2, and 5 and for 3 years.		
2 Bejjalatty							
3 Sundapur							
4 Devarmalai							
5 Tharmarkaerai							
6 Boodamalai series ..	805 0 0 Nos. 6, 7, and 8 one lot.	925 0 0	1,505 0 0	1,760 0 0	10,425 0 0 Nos. 6, 7, 8 in one lot and for 3 years.		
7 Kathirimalai							
8 Thattakkerai							
9 Koilnatham	4,600 0 0 and Nos. 9, 10 and 11 in one lot for 3 years.			1,947 0 0 9, 10 and 11 in one lot.	1556 0 0 9, 10 and 11 in one lot.		
10 Ialakarai							
11 Kopputhukombai ..							

	1949–50 (9)	1950–51 (10)	1951–52 (11)	1952–53 12	1953–54 (13)	1953–54 (14)
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	
1 Bargur series	3,155 0 0	for 3 years.	16,350 along with 2, 3, 4 and 5 and for 3 years			
2 Bej alatty	6,005 0 0	,,				
3 Sundapur	5,005 0 0	,,				
4 Devarmalai	8,000 0 0	,,				
5 Thamarakerai	8,005 0 0	,,				
6 Boodamalai series ..	3,506 0 0 6, 7 and 8 in one lot.	3,496 0 0 6, 7 and 8 in one lot.	2,622 0 0 6, 7 and 8 in one lot.	9,910 0 0 6, 7 and 8 in one lot.	6,105 0 0 6, 7 and 8 in one lot.	
7 Kathirimalai						
8 Thattakkerai						
9 Koilnatham	4,005 0 0		4,000 0 0 Nos. 9, 10 and 11 in one lot and for 3 years.			
10 Ialekarai	7,005 0 0					
11 Kopputhukombai ..	2,030 0 0					

STATEMENT II.

Statement showing the total outturn of sandalwood in Bargur Range from 1942–1943 to 1953–1954 and revenue realised.

Serial number and name of series.	Range.	1942–43			1943–44			1944–45			1945–46			1946–47			1947–48		
		T.	Q.	LB.	T.	Q.	LB.	T.	Q.	LB.	T.	Q.	LB.	T.	Q.	LB.	T.	Q.	LB.
1 Reserve Series	Bargur ..	20	20	21¼	6	59	20	18	21	27½	18	25	25½	28	10	4	4	51	25
2 Village Series	Do. ..	40	26	8	70	2	23½	17	23	½	22	60	3¼	69	65	10¼	3	22	13¼
	Total ..	69	47	1¼	76	62	15½	35	44	27½	41	6	¾	97	75	14¼	7	74	10¼
	Revenue realised ..	..			103,492	10	0	83,034	0	0	102,910	0	0	282,015	0	0	12,128	0	0

Serial number and name of series.	Range.	1948–49			1949–50			1950–51			1951–52			1952–53			1953–54		
		T.	Q.	LB.	T.	Q.	LB.	T.	Q.	LB.	T.	Q.	LB.	T.	Q.	LB.	T.	Q.	LB.
1 Reserve series	Bargur ..	28	35	18	2	10	1¾	3	17	14¼	12	35	3	6	69	22	8	76	26¾
2 Village series	Do. ..	23	16	½	66	36	15½	4	48	13¾	12	36	12	15	19	23½	3	20	13½
	Total ..	51	51	18½	68	46	17¼	7	66	0	24	71	15	22	9	17½	12	17	12¼
	Revenue realised ..	128,613	0	0	229,818	0	0	20,128	0	0	96,675	0	0	32,126	0	0	43,463	0	0

NOTE.—(1) The revenue shown here is proportionate based on the total output of Sandalwood in the division and the revenue realised during the year.

(2) The revenue realised in any particulars year does not indicate the value of the sandalwood extracted during that year as it was not always possible to sell all extracted sandal wood during that particular financial year itself.

STATEMENT III.

Statement showing the areas prescribed, areas worked and prices fetched by sale of fuel coupes in Bargur Range from 1942–43 to 1953–54.

Serial number and name of series.	*Coupe number.*	*Prescribed area in acres.*	*Area worked in acres.*	*Prices obtained per acre.*	*Total amount.*
(1)	(2)	(3)	(4)	(5)	(6)
				RS. A. P.	RS. A. P.
		1942–43			
1 Palar	I	132·0	75·0	25 2 0	1,884 6 0
2 Ajjappankoil	I (a)	45·0	47·0	26 4 0	1,233 12 0
3 Komarayanur	I (a)	38·0	47·0	21 12 0	1,022 4 0
4 Ullurthanda	I (a)	38·0	35·0	21 0 0	736 0 0
		1943–44			
1 Palar	II	153·2	156·0	20 0 0	3,120 0 0
2 Ajjappankoil	I (b)	31·0	25·0	98 8 0	2,462 8 0
3 Komarayanur	I (b)	44·0	76·0	52 4 0	3,971 0 0
4 Ullurthanda	I (b)	44·0	42·0	45 4 0	1,900 8 0
		1944–45			
1 Palar	III	149·4	90·0	35 0 0	3,150 0 0
2 Ajjappankoil	I (c)	40·0	55·0	73 0 0	4 015 0 0
3 Komarayanur	I (c)	46·0	45·0	68 0 0	3,060 0 0
4 Ullurthanda	I (c)	44·0	44·0	46 8 0	2,046 0 0
		1945–46			
1 Palar	IV	167·4	170·0	20 2 0	3,241 4 0
2 Ajjappankoil	I (d)	40·0	51·0	40 8 0	2,065 8 0
3 Komarayanur	I (d)	43·0	56·0	61 0 0	3 415 0 0
4 Ullurthanda	I (d)	42·0	40·0	42 0 0	1,640 0 0
		1946–47			
1 Palar	V	163·4	172·0	29 12 0	5,117 0 0
2 Ajjappankoil	I (e)	48·0	56·0	104 4 0	5,838 0 0
3 Komarayanur	I (e)	41·0	41·0	61 0 0	2,501 0 0
4 Ullurthanda	I (e)	43·0	27·0	110 0 0	2,970 0 0
		1947–48			
1 Palar	VI	102·2	90·0	70 0 0	6,300 0 0
2 Ajjappankoil	I (f)	40·0	41·0	229 12 0	9,419 12 0
3 Komarayanur	I (a)	37·0	72·0	40 4 0	2,898 0 0
4 Ullurthanda	II (a)	50·0	58·0	63 4 0	3,668 8 0
		1948–49			
1 Palar	VII	89·2	105·0	65 0 0	6,825 0 0
2 Ajjappankoil	I (g)	47·0	32·0	110 0 0	3,320 0 0
3 Komarayanur	II (b)	48·0	37·0	30 4 0	1,452 4 0
4 Ullurthanda	II (b)	39·0	28·0	155 0 0	2,940 0 3
		1949–50			
1 Palar			No sale.		
2 Ajjappankoil	II (a)	44·0	25·0	79 0 0	1,975 0 0
3 Komarayanur	II (c)	41·0	52·0	18 8 0	962 0 0
4 Ullurthanda	II (c)	37·0	37·0	96 8 0	3,570 8 0
		1950–51			
1 Palar	VIII	143·4	131·0	81 8 0	10,676 8 0
2 Ajjappankoil	II (b)	49·0	35·0	71 4 0	2,493 12 0
3 Komarayanur	II (d)	39·0	43 0	17 4 0	7,441 [illegible] 0
4 Ullurthanda	II (d)	37·0	60·0	96 0 0	5,760 0 0
		1951–52			
1 Palar	IX	128·0	119·0	42 12 0	5,087 4 0
2 Ajjappankoil	II (c)	48·0	30·0	90 8 0	2,715 0 0
3 Komarayanur	II (c)	33·0	33·0	19 8 0	643 8 0
4 Ullurthanda	III (a)	37·0	35·0	39 8 0	1,422 0 3
		1952–53			
1 Palar	X	146·4	131·0	103 11 0	13,591 4 0
2 Ajjappankoil	II (d)	37·0	25·0	100 0 0	2,500 0 0
3 Komarayanur	III (a)	30·0	39·0	17 0 0	663 0 0
4 Ullurthanda	III (b)	38·0	37·0	61 4 0	2,266 4 0
		1953–54			
1 Palar			No coupe work.		
2 Ajjappankoil	II (c)	46·0	107·0	65 0 9	6,955 0 0
3 Komarayanur	III (b)	44·0	44·0	34 0 0	1,496 0 0
4 Ullurthanda	III (e)	42·0	54·0	42 0 0	2,268 0 0

STATEMENT IV.

Statement showing the yield of gallnut and revenue realised in Bargur Range from 1942–1943 to 1953–54.

Serial number.	Year.	Bargur Range. Yield.	Bargur Range. Revenue.		
(1)	(2)	(3)	(4)		
			RS.	A.	P.
1	1942–43	465 Maunds	350	0	0
2	1943–44	175 Maunds	999	0	0
3	1944–45	104 Maunds	600	0	0
4	1945–46	99 Maunds	450	0	0
5	1946–47	20 Maunds	1,995	0	0
6	1947–48	1678 bags	3,700	0	0
7	1948–49	114 Maunds	1,215	0	0
8	1949–50	450 Maunds	2,000	0	0
9	1950–51	....	625	0	0
10	1951–52	265 Maunds	1,705	0	0
11	1952–53	199 Maunds	630	0	0
12	1953–54	50 Maunds	7,015	0	0

STATEMENT V.

Statement showing the Revenue realised by the sale of the minor forest produce in Bargur Range from 1942–43 to 1953–54.

Serial number.	Year.	Avaram bark.	Konnai bark.	Stone and tree moss.	Date leaves and Korai grass.	Other items 14 kinds Shekoy, etc.	Nuxvomica.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		RS.	RS.	RS.	RS.	RS.	RS.
1	1942–43	50	30	85	310	300	7
2	1943–44	105	..	37	316	1,111	15
3	1944–45	70	..	30	485	300	9
4	1945–46	230	..	25	250	175	9
5	1946–47	425	..	245	265	686	..
6	1947–48	545	675	60	1,200	760	..
7	1948–49	225	..	35	221	1,000	..
8	1949–50	450	..	75	240	2,800	..
9	1950–51	375	..	65	595	650	..
10	1951–52	752	..	41	900	1,300	..
11	1952–53	325	..	30	510	1,515	..
12	1953–54	..	..	35	..	300	..

STATEMENT VI.

Statement showing the Revenne realised and quantity obtained by the sale of minor forest products of Kollegal forest division Honey, Wax, Deer horns, Sambar horns and Elephant tusks.

Serial number and item.	Kollegal Rrange.	Ramapuram Range.	Koll-gal and Ramapuram.	Bargur Range.	Grand total.	Revenue Realised.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	LB.	LB.	LB.	LB.	LB.	RS. AS. PS.
1942–43						
1 Honey	308	612	920	425	1345	
2 Wax	41½	33	74½	26	100½	
3 Deer horn	55	11	66	15½	81½	1147 4 2
4 Sambar horn	330	345	676	209½	885½	
5 Elephant tusks	Nil	Nil	Nil	Nil	Nil	
1943–44						
1 Honey	86	89	177	173	250	
2 Wax	1½	12	13½	9	22¾	
3 Deer horn	14	49	63	14	77	382 2 0
4 Sambar horn	76½	700	776½	104½	881	
5 Elephant tusks	Nil	Nil	Nil	Nil	Nil	
1944–45						
1 Honey	84	167	251	180	431	
2 Wax	11	7½	18½	11	29½	
3 Deer horn	15¼	29	44½	6	50¼	337 0 0
4 Sambar horn	109¾	171	280¾	197½	477¼	
5 Elephant tusks	Nil	Nil	Nil	Nil	Nil	
1945–46						
1 Honey	217½	107	324½	415	739½	
2 Wax	16¾	20	86¾	13	54¾	
3 Deer horn	46½	9	55½	..	55½	427 10 0
4 Sambar horn	178½	104	282½	..	282½	
5 Elephant tusks	Nil	Nil	Nil	Nil	Nil	

STATEMENT VI—*cont.*

Statement showing the Revenue realised and quantity obtained by the sale of minor forest products of Kollegal forest division Honey, Wax. Deer horns. Sambar horns and Elephamt tusks—cont.

Serial number and item. (1)	*Kollegal range.* (2) LB.	*Ramapuram range.* (3) LB.	*Kollegal and Ramapuram.* (4) LB.	*Bargur range.* (5) LB.	*Grand total.* (6) LB.	*Revenue realised.* (7) LB.
			1946–47			
1 Honey	62	15	77	200	277	246 2 0
2 Wax	5½	2	7½	10	97⅛	
3 Deer horn	61½	9	70⅛	28	98½	
4 Sambar horn	200	32	232	140	332	
5 Elephant tusks ..	Nil	17¾	17¾	70	67	
			1947–48			
1 Honey	65	293	358	160	518	1,180 0 0
2 Wax	4½	13½	18	8	26	
3 Deer horn	36½	81	117½	277	394½	
4 Sambar horn	93¾	256	349	32	381	
			23		23	
5 Elephant tusks ..	..	..	16—	..	16—	
			40		40	

STATEMENT VII.

Statement showing the revenue realised by sale of tamarind in Bargur Range from 1942–43 to 1953–54.

Serial number. (1)	*Year.* (2)	*Bargur Range.* *Yield.* (3)	*Revenue.* (4) RS
1	1942–43	45 Maunds	78
2	1943–44	30 Maunds	270
3	1944–45	198 Maunds	65
4	1945–46	80 Maunds	76
5	1946–47	50 Maunds	71
6	1947–48	30 Bags	75
7	1948–49	18 Maunds	55
8	1949–50	844 Maunds (withpods)	99
9	1950–51	430 Maunds	490
10	1951–52	No Sale.	
11	1952–53	51 Maunds Collected departmentally.	

STATEMENT VIII.

Statement showing the revenue realised by Grazing in Bargur Range from 1942–43 to 1953–54.

Serial number. (1)	*Year.* (2)	*Bargur Range.* *Number. of cattle.* (3)	*Revenue.* (4) RS.	A.	P.
1	1942–43	34,293.5	6,471	7	0
2	1943–44	39,245	7,115	6	0
3	1944–45	33,047	6,339	0	0
4	1945–46	32,131·5	6,074	0	0
5	1946 47	30,293	5,778	1	0
6	1947–48	26,656·5	5,890	13	0
7	1948–49	38,252	6,811	0	0
8	1949–50	30,756	6,008	13	0
9	1950–51	37,777	6,786	15	0
10	1951–52	32,802	6,471	4	0
11	1952–53	35,869	8,169	1	20

CHAPTER IV.—STAFF AND LABOUR SUPPLY.

SECTION 1.—STAFF.

56. *Staff.*—The establishments of the District Forest Office and Range in the entire Kollegal Forest Division as it stood on 1st April 1956 are shown in the following statement :—

Serial number and name of establishment.	*Gazetted officers.*	*Range officers.*	*Foresters.*	*Forest guards.*	*Reserve watchers.*	*Office watchers.*	*Upper division clerks.*	*Lower division clerks.*	*Typists.*	*Draughtsman.*	*Peons.*	*Remarks.*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1 Bargur Range	..	1	5	19	15	1	..	1	..	..	1	
2 Kollegal Range	..	1	7	25	19	..	..	2	..	..	1	
3 Ramapuram Range ..	..	1	5	21	19	..	..	1	..	..	1	
4 District Forest Office ..	1	..	..	..	..	1	2	5	1	1	4	
Total ..	1	3	17	65	53	2	2	9	1	1	7	

In view of the recent orders, in the Bargur range, where the number of offences per year has increased far beyond 400 due to the transfer of the Palamalai Reserved Forest to this Range, an extra lower division clerk has been sanctioned and this post is being utilized now. Recently, the post of an extra upper division clerk has been sanctioned and is being made use of in this division.

57. *Labour supply.*—Plenty of unskilled labour is available here during the non-agricultural season, but is apt to be scarce at harvest or sowing time. For road work the Woddars, popular throughout for their stone and masonry work, are used. They are available in Kuratti, Hosur and Mettur Dam and sometimes recruited and brought over from Satyamangalam.

58. *Sholaga settlements.*—Sholaga settlements have been formed in this tract mainly due to the difficulty in getting labour for sandal extraction, which synchronizes with the agricultural season. The following statement gives particulars regarding such settlements in existence :—

Statement showing the list of Settlements in Bargur Range.

Name of the settlement.	*Extent in acres.*	*Name of the reseved forest in which it lies.*	*Name of the headman.*	*Assessment in rupees.*
Dodda Sholaganai	35·0	North Bargur reserved forest.	Karian	Free
Nadu Sholaganai	25·0	Do.	Do.	Do.
Katerimalai	22·0	Do.	Onnan	10–7–0
Do.	4·3	Do.	Malayan	2–6–0
Thamarakarai sholagar settlement.	25·0	Thamarakarai Reserved Forest.	Kandiyan	Do.
Chikka sholaganaiholaganai	22	North Bargur Reserved Forest.	Gigian sholagan,	Free

CHAPTER V—PAST SYSTEMS OF MANAGEMENT.

SECTION 1—GENERAL HISTORY OF THE FORESTS.

59. *General history of the forests.*—The Coimbatore district over which a great portion of this range lies came into the possession of the East India Company in 17,99 on the fall of Serangapatam and the death of Tippu Sultan a former ruler of the Mysore State. For nearly forty years prior to this date, this area had been the scene of intensive military activities and has changed hands many a time between the British and Tippu Sultan.

The chief species of the forest is Sandal, and Tippu is known to have appreciated the value of this tree. In his days, this was considered to be a 'royal' tree in the sense that no private right to this tree was recognised, a position which continues even to this day as regards this tree in Mysore State. No other useful information is available from any other record regarding the management of these forests in those days. It has been

reported by Dr. H. Cleghorn (1867), that Sandalwood, though considered to be a " royal " tree, was all the same being systematically plundered in those unsettled times, by organized gangs of robbers, who marketed it in the West Coast. Attempts to work these forests in a systematic fashion appear to have been made only in 1856, more than five decades after this tract came into the possession of the British. In that year the Forest Department was first organized under the control of Dr. Cleghorn and Kollegal was one of the earliest forest tracts to be brought under its control. Kollegal forests along with those in parts of the present Coimbatore North Division (parts of Satyamangalam and Bhavani Ranges) were placed in charge of Major Morgan with his headquarters at Ootacamund. " Regular working " of Sandal, which constituted " regular cutting of all trees which have made heartwood and showed signs of decay at their tops ", was first started in the Bargur Plateau in 1864. These fellings were in the hands of local supervisors. The forests, in general, appear to have been exploited indiscriminately and bear signs of lot of shifting, cultivation and unorganized and ill-planned working in the past. The quality of these forests, according to earlier reports, had been deteriorating progressively and it could easily have been worse, but for the remoteness of this locality, which is not well served by good roads, which restricts the removal of any produce on a large scale for transport to far away places and sold there with any reasonable margin of profit. As such, only local demands had to be met from the resources of these forests and the sparseness of the population and the extensive unreserves, which are even now in existence, have saved the reserved forests from utter destruction. The completely depleted reserved forests which are found near Ullurthanda and Mettur Dam of the Bargur Range localities which are thickly populated and where there are very little unreserves—will bear testimony to this statement. Frequent fires, mostly caused by men to induce the new grass shoots to come early in the season for providing fodder to the cattle and the heavy incidence of grazing in the Reserved forests of this range are further factors which have caused the retrogression of these forests. These fires have been responsible for destroying the ground cover year after year, with the result that the depth of soil is too shallow in many areas to support and bring up any natural regeneration, while rocky outcrops are also met with over large tract of the forests in this range. Another main produce of this range, apart from sandalwood, is bamboo and even the effective bamboo areas have either become small or thin in density, probably due to lack of means for easy and frequent inspections by superior officers. The practice in these localities seems to have been to work and remove bamboos from all the easily accessible localities, irrespective of the fact whether such areas fall in the current year's coupe or not, with the result that most of the accessible areas, of this Range appear to have become very thin in bamboo stocking.

60. *Administrative history of the division.*—The Kollegal Forest Division as constituted at present, came under the management of the Forest Department in 1859, forming a division along with other forest tracts of Coimbatore and Nilgiris districts. The Kollegal Division became an independent unit of administration only on 1st April 1909. The Bargur Range was added on to it in 1921 and subsequently the Palamalais which formed part of the Bhavani Range of Coimbatore North Division were added on to the Bargur Range in August 1955. The headquarters was Coimbatore till 1912, when it was shifted to its present headquarters—Kollegal.

SECTION 2—PAST SYSTEMS OF MANAGEMENT AND THEIR RESULTS.

61. *Position regarding Working Plans.*—In the eorly days the management and exploitation of the forests were generally carried out under several temporary schemes, which were prepared as and when occasions arose. In 1923, Mr. S. Sadasiva Iyer prepared three-year working schemes for exploiting sandal, fuel, small timber and bamboos. These were followed up by a consolidated working scheme for the whole of the forest area which was prepared by Sri N. D. Sahni in 1928. This scheme also was for a period of three years. It expired by the end of 1930–31, but the prescriptions were continued to be followed till 1st April 1933, when the first working plan for the division prepared by Sri C. B. Ranganathar and Sri M. H. Krishnaswamy came into force. This plan was revised by Sri V. S. Krishnaswamy in 1941 and this plan for the period 1942–43 to 1956–57 is revised now.

In Bargur and Bhavani Ranges extraction of sandalwood was organized as early as in 1895–96 under a working scheme drawn up by Mr. Lushington. The total area covered under this scheme was roughly about 27 square miles and this area was divided into ten coupes. This scheme was upset by an early onset of spike. In 1917–18, Mr. Hodgson prepared a working scheme for sandal in this area and prescribed the extraction of all dead and spiked sandal trees over this area on a cycle of three years. This scheme expired in 1921 and a revised scheme was drawn up by Mr. Du-Pre Thornton for the Bargur Range, which was transferred to the Kollegal Division in that year. This scheme dealt

only with the spiked areas in the range and prescribed removal of all dead trees on a five-year felling cycle. Sri Sadasiva Iyer's working scheme for extraction of sandal for three years came into effect in 1923–24 and this prescribed the extraction of all dead and spiked sandal trees on a three-year felling cycle for the Bargur Working Circle. Large scale theft of sandal in Bargur Range by a private dealer in 1923–24 not only upset the programme there but in the other two ranges also as the deficit from Bargur Range was made up by extraordinary fellings in the other ranges. This scheme expired by 1926–27, after which period spiked and dead trees were removed all over in a disorganized fashion.

In 1928, Sri N. D. Sahni drew up a working scheme consolidating the different working schemes which were then current. This scheme, however, did not specify the annual coupes of the sandal series or the series themselves by any manner of means but an annual yield of 66 tons was indicated. The work was carried on as before till 1st April 1933, when the working plan prepared by Sri C. R. Ranganathan and Sri M. H. Krishnaswamy came into force.

62. *Management of sandal according to 1933 Working Plan.*—The Working Plan prescribed the formation of two working circles—The " Reserve Sandal Working Circle " for the sandal in the Reserved forests and the " Village Sandal Working Circle " for the sandal on the unreserves and patta lands.

63. *Reserve Sandal Working Circle.*—The Working Circle was constituted on the basis of detailed stock mapping done by actually counting all sandal trees above the height of man all over, in convenient small units of 5 acres each, in areas supporting a dense stocking of sandal and ten acres in areas when the sandal growth was scattered. The incidence of spiked trees was also determined but was not taken into consideration while constituting the felling cycle, as it was low though wide-spread.

The incidence of spike was found to be 11.5 per cent.

The reserve sandal working circle so formed excluded isolated and remote patches of sandal growth occurring on the Cauvery slopes of Ramapuram Range and comprised of nine felling series. Exploitation was confined to uprootal of dead sandal trees only on a felling cycle of six years. Formation of equiproductive coupes was attempted by dividing the area in such a manner, within limits of practicability that each coupe contained more or less equal number of sandal trees. For calculating the possibility, the working plan officer assumed that " under normal conditions, the number of sandal trees which die in any girth class is a fixed proportion of the strength of the class and this proportion is uniform in all classes ". This assumption based in a study of the sandal enumeration figures of the unreserves of Satyamangalam and Talamalai in Coimbatore North Division, was made applicable to this division also. The annual mortality was estimated at 4·9 per cent and the annual possibility on this assumption came to 56·9 tons of final cleaned sandal wood for the entire division as constituted at present including Kollegal and Ramapuram Ranges. The total annual yield obtained in the years that followed was found to bear no relationship at all to this annual possibility based on an estimated annual mortality, as the mortality of sandal and the percentage of heartwood in sandalwood, do not apparently conform themselves to any rigid simple laws. The mortality of sandal is found to depend on many factors such as the climate, rain-fall, occurrence of forest fires, etc., and the annual yield of dead sandalwood fluctuates very considerably under these conditions. Hence the equiproductivity aimed at was never achieved.

This working plan was revised by Sri V. S. Krishnaswamy in 1941–42, and in this plan prescribing operations till 1956–57, the same division into series was continued for the reasons that (1) the staff are well conversant with the present divisions and sub-divisions of the sandal series and (*b*) a perfect arrangement of equiproductive coupes will not be possible since removal of dead trees only was prescribed.

64. *Outturn statements.*—The following statement gives the outturn of sandalwood obtained from the coupes of the different series of the Reserve Sandal Working Circle from 1942–43 to 1953–54.

Statement showing the outturn of sandalwood in each reserve series in Bargur Range from 1942–43 to 1953–54.

Serial number and name of the series. (1)	1945–46. (2) T.	QRS.	LB.	*Coupe* I 1951–52. (3) T.	QRS.	LB.	1946–47. (4) T.	QRS.	LB.	*Coupe* II 1952–53. (5) T.	QRS.	LB.	1947–48. (6) T.	QRS.	LB.	*Coupe* III 1953–54. (7) T.	QRS.	LB.
1 Bargur	0	77	6¼	0	7	2	0	37	18½	0	30	12	0	0	7¼	0	5	19
2 Bejjalatty	10	26	1	0	28	7½	22	48	16½	1	72	14	4	25	14¼	2	72	13½
3 Koilnatham	7	3	18	11	79	21½	5	3	25	4	46	24	0	32	3½	5	78	22½
Total ..	18	25	25¼	12	35	3	28	10	4	6	69	22	4	51	25	8	76	26¾

Serial number and name of the series. (1)	1942–43. (8) T.	QRS.	LB.	*Coupe* IV 1948–49. (9) T.	QRS.	LB.	1943–44. (10) T.	QRS.	LB.	*Coupe* V 1949–50. (11) T.	QRS.	LB.	1944–45. (12) T.	QRS.	LB.	*Coupe* VI 1950–51. (13) T.	QRS.	LB.
1 Bargur	0	68	2¼	0	0	5	1	18	24¼	0	30	11	0	60	2¼	0	6	20
2 Bejjalatty	15	60	19½	1	53	0	5	40	13½	1	11	22	17	33	21	2	60	27¾
3 Koilnatham	12	51	27½	26	12	13	0	0	10¼	0	47	24¾	0	8	3¾	0	29	22½
Total ..	29	20	21¼	28	35	18	6	59	20	2	10	1¾	18	21	27	3	17	14½

65. *Village Sandal Working Circle.*—In the working plan by Sri C. R. Ranganathan and Sri M. H. Krishnaswamy all villages in the division which contained sufficient sandal trees in their unreserves or patta lands to make annual exploitation worthwhile were included in the working circle. A complete enumeration of sandal trees over 6 inches G.B.M. was done among the trees occurring on patta lands while in the unreserves, only the number of trees of the above a man's height was counted. There felling series were constituted to be worked on a three-year felling cycle, possibly with a view to cover the areas with the shortest possilbe interval to safeguard against and minimize the possiblities of theft and smuggling.

The trees that belong to the Government in the fields (as signed between 1907 and 1928) where those trees that have come up since the date of assignment were considered to be the property of the pattadars, were determined as follows. The mean annual increment which was taken as 0·5 inches, multiplied by the period in years that has elapsed between the date of assignment and the date of extraction will give the girth of the smallest tree that belongs to the Government. All trees of this girth and over will be presumed to belong to the Government.

In cases where the Government have no claim to the trees occurring in patta lands, it was considered desirable to acquire those trees under a private agreement. This was felt necessary and desirable, in order to prevent unscrupulous private dealers in sandalwood from competing with the Government and more so to prevent them from stealing and smuggling sandalwood from the Reserved forests nearby under the cover of patta sandal. Instances of such nature have become too frequent of late in many forest divisions of the State.

66. *Payment for patta sandalwood.*—Pattadars were paid for their protection of Government trees at stipulated rates as per agreement, which are usually one rupee per quarter of rough cleaned wood. In cases where the Government purchased sandalwood belonging to the pattadar, they were to be paid the prevalent market value of the wood less the overhead and extraction charges and other wastages.

According to Sri C. R. Ranganathan and Sri M. H. Krishnaswamy, the anticipated annual yield was approximately 43 tons of rough cleaned wood but thls yield also has never been steady for the same reasons mentioned for the reserve sandal areas. The extraction was confined only to dead trees.

The working plan by Sri V. S. Krishnaswamy prescribed the continuation of the same felling series and the same prescription for extraction. However the mean annual increment of 0·5 inches prescribed for determining the trees belonging to the Government on patta lands where the Government are entitled by right only to the trees that existed at the time of assignment, was reduced to 0·8 inches (communicated in Chief Conservator's Reference No. 22898/50, dated 26th June 1950) and this figure is being used now. The annual possibility under this working plan was anticipated as 66 tons—the average annual yield obtained during the period of the previous working plan.

67. *Outturn.*—The following statement gives the outturn of sandalwood obtained from each of the village sandal felling series between 1942–43 and 1953–54 :—

Statement showing the outturn of sandalwood for each village series in Bargur Range from 1942–43 to 1953–54.

Coupe I.

Serial number and name of the series.	1942–43.			1945–46.			1948–49.			1951–52.		
	T.	QRS.	LB.	T.	QRS.	LB.	T.	QRS.	LB.	T.	QRS.	LB.
(1)		(2)			(3)			(4)			(5)	
1 Koilnatham	3	68	25	18	44	¾	14	45	0	8	24	2
2 Devarmalai	2	42	22	0	74	24¾	0	61	26¾	2	59	14
3 Thamarakarai	33	74	17	3	21	6	7	69	1¾	1	32	24
Total ..	40	26	8	22	60	3½	23	16	½	12	36	12

Coupe II.

Serial number and name of the series.	1943–44.			1946–47.			1949–50.			1952–53.		
	T.	QRS.	LB.	T.	QRS.	LB.	T.	QRS.	LB.	T.	QRS.	LB.
(1)		(2)			(3)			(4)			(5)	
1 Koilnatham	0	18	5¼	0	28	8	0	38	5¾	0	78	12½
2 Devarmalai	48	72	14¾	41	12	27¼	27	77	3¼	4	61	27
3 Thamarakarai	20	72	3½	28	24	3	38	1	6½	9	39	12
Total ..	**70**	**2**	**23½**	**69**	**65**	**10¼**	**66**	**36**	**15½**	**15**	**19**	**23½**

Statement showing the outturn of sandalwood for each village series in Bargur Range from 1942–43 to 1953–54—cont.

Coupe III.

Serial number and name of the series.	1944–45.			1947–48.			1950–51.			1953–54.		
	T.	QRS.	LB.	T.	QRS.	LB.	T.	QRS.	LB.	T.	QRS.	LB.
(1)		(2)			(3)			(4)			(5)	
1 Koilnatham	0	16	1½	0	11	15½	0	17	2	0	23	6
2 Devarmalai	9	19	26¼	1	9	10¼	3	50	21¾	1	58	18¼
3 Thamarakarai	7	67	¾	2	1	15½	0	60	18	1	18	17¼
Total ..	17	23	½	3	22	13¼	4	48	13¼	3	20	13¼

68. The total yield of sandalwood obtained annually in this range from the series of both the working circles is given below :—

Statement showing the total outturn of sandalwood in Kollegal forest division from 1942–43 to1953–54.

Serial number and name of series. (1)	Range. (2)	1942–43. (3) T.	QRS.	LB.	1943–44. (4) T.	QRS.	LB.	1944–45. (5) T.	QRS.	LB.	1945–46. (6) T.	QRS.	LB.	1946–47. (7) T.	QRS.	LB.	1947–48. (8) T.	QRS.	LB.
1 Reserve series	Bargur	29	20	21¼	6	59	20	18	21	27	18	25	25¼	28	10	4	4	51	25
2 Village series	Do.	40	26	8	70	2	23½	17	23	½	22	60	3½	69	65	10¼	3	22	13¼
	Total ..	69	47	1¼	76	62	15½	35	44	27½	41	6	¾	97	75	14¼	7	74	10¼

Serial number and name of series. (1)	Range. (2)	1948–49. (9) T.	QRS.	LB.	1949–50. (10) T.	QRS.	LB.	1950–51. (11) T.	QRS.	LB.	1951–52. (12) T.	QRS.	LB.	1952–53. (13) T.	QRS.	LB.	1953–54. (14) T.	QRS.	LB.
1 Reserve series	Bargur	28	35	18	2	10	1¾	3	17	14¼	12	35	3	6	69	22	8	76	26¾
2 Village series	Do.	23	16	½	66	36	15½	4	48	13¾	12	36	12	15	19	23¼	3	20	13½
	Total ..	51	51	18½	68	46	17¼	7	66	0	24	71	15	22	9	17¼	12	17	12¼

SECTION 3—SPECIAL WORKS OF IMPROVEMENT UNDERTAKEN.

69. *The future.*—In view of the fact that the mortality of sandal and its capacity to produce a required amount of heartwood in a specified time do not conform to and cannot be reduced to any rigid standard, no attempts to lay out equiproductive areas are made. The yield depends on various seasonal factors such as climate, rainfall, occurrence and intensity of forest fires, etc. As such it is proposed to continue the present division of felling series and coupes in the future also. It may however be pointed out that in the near future the yield of sandalwood from many of the village series is likely to be reduced very much, as a result of the extensive tracts brought under 'Sivoijama' cultivation since 1933, where old and mature sandal trees still exist, but the staking of young regeneration is shockingly low. The reason, it is feared is, that the cultivators discourage any regeneration of sandalwood, sometimes possibly by pulling out and destroying any seedling that comes up, as they fell the revenue by sale of such sandal is not very attractive but the responsibility of protecting, etc., of such sandalwood rather heavy and hence an unnecessary one.

70. *Artificial regeneration of sandal.*—Sri C. R. Ranganathan, in his working plan for the Kollegal Division (1934), prescribed the opening of sandal propagation centres in specified localities at the rate of five each in the following beats :—

(1) Gerigaikandy, (2) Thattakarai, (3) Tamarakarai, (4) Bejjalatty, (5) Sengulam and (6) Gudalur. These were prescribed with a view to introducing sandal in suitable localities where at that time it was either deficient or absent. In some of these localities a fairly good stocking of sandal is observed at present. But no reliable conclusion can possibly be made as the conditions which existed when these experiments were started are not known.

Sri V. S. Krishnaswamy in his working plan prescribed the continuance of such sandal propagation centres. He prescribed the formation of sandal propagation centres, ten feet in diameter and fenced all round with the object of raising only a few healthy mother trees in suitable localities. He suggested the formation of such centres in groups extending over 5 acres in each locality with Kumri. These prescriptions were attempted for a period of five years from 1942–43 to 1946–47 but proved to be failure and hence given up as per orders contained in Chief Conservator's Proceedings Mis. No. 93/53-D, dated 7th February 1953. It is not proposed to continue such propagation centres in future.

71. *Future artificial regeneration of sandal.*—The attempts so far made in artificial regeneration of sandal, have not been useful in reaching definite conclusions as to the best suited method. As a matter of fact, no success of any appreciable degree has been achieved by any of the methods attempted so far. Though propagation of sandal, if successfully effected will no doubt increase the potential value of these forests, the natural regeneration observed is sufficient enough at least to maintain the present density of stocking and hence it is not considered necessary to attempt any special method of artificial regeneration of sandal, at least in the Reserved forests. As has been stated earlier the yield from the unreserves is likely to diminish to an alarming extent in future, due to the large scale extension of Sivoijama cultivations over this tract.

72. *Fuel.*—No records are available regarding the working of fuel prior to 1907. Probably the permit system allowing removal of dead fuel was in vogue then. In 1907, the working of fuel areas in the Palamalais was taken up for the first time and the work continued in a very regular fashion.

Mr. Hodgeson prepared a working plan in 1919 in which a fuel series was formed in the Palamalais. This working plan for some reason did not receive sanction but the prescriptions were followed in practice. Since 1921–22 this series had been worked regularly. The coupes were worked under coppice with standards system till 1916–17 and during the year 1917–18 and 1918-19 under the 'Species Check' system. Mr. Hodgeson's unsanctioned working plan had prescribed simple coppice and this was followed. Sandal, Neem and Tamarind trees were always reserved for retention.

In order to supply the fuel required for the Mettur Project, a series of 30 coupes, called the Mettur Felling Series, was opened in 1927–28 in the Palamalai Reserved Forests. It was decided that as many coupes as were required by the Public Works Department should be handed over to them every year to be exploited one after another. Their annual requirement was estimated to be 200 tons. Accordingly coupes XIX to XXIV were worked in 1927–28. A royalty of rupee 1 per ton was paid for these coupes. There was no demand from the Public Works Department during 1928–29 and two coupes were leased out in December 1929. During 1929–30 and 1930–31 no coupes were worked by the Public Works Department. In 1931–32 five coupes were allotted to the Public Works Department. The rate to be paid was however Rs. 7 per acre on the orders of the Chief Conservator of Forests in August 1928. From 1934 onwards regular working of the series at the rate of one coupe a year was taken up under the prescriptions of

Sri C. R. Ranganathan's Working Plan. The coupes were leased out to the public. Thus from 1934 onwards two fuel series, viz., the Palamalai and the Mettur fuel series are being worked in the Palamalai Reserved Forest. This reserved forest was in Coimbatore North Division (Bhavani Range) until August 1955, when it was transferred to the Bargur Range.

In the forests of this range which were forming part of the Kollegal Division, regular working for fuel was commenced only after 1934 as per the prescriptions of the 1933 working plan. After the Mettur Dam township was created when the project began to function, there was naturally a heavy demand for fuel and two series—one at Ullurthanda and another at Komarayyanur—were formed. These series were worked under the simple coppice system on a rotation of 40 years. With the growing importance of Mettur Dam, new industries sprung up thereby resulting in the enormous increase of the population. To meet the increase demand, an additional full series was created in the 1942–43 working plan at Ajjappankoil. Thus from 1942–43, five fuel coupes were being worked every year to meet the fuel requirements of the Mettur township, the farthest coupe being about 20 miles away and the nearest on the fringes of the township itself. On an average, about 200 acres were being felled each year in all the five coupes put together and an average yield of about 1,200 tons could reasonably be presumed to have been extracted annually from these areas. In addition to these five series, another series, the Guruvareddiyur fuel series, is being worked from 1942–43 onwards. This series is located on the western slopes of the Palamalai Reserved Forest. The annual coupe is about 40 acres and the fuel from these coupes is being transported to Bhavani and Erode and sold there. A small part of it, however, is used up locally at Guruvareddiyur.

73. *Special coupes.*—During the last decade, to meet the full requirements of the Sandal wood Oil Company at Mettur Dam, special coupes of about 150 acres each were worked annually. This working commenced in 1945–1946 and was stopped in 1952–53. The Sandalwood Oil Company now uses coal and furnace oil addition to firewood as fuel and as such the demand for firewood is not specially great for this purpose.

74. *Attempts at artificial regeneration.*—Afforestation of dry fuel forests was taken up from 1953–1954 onwards under a scheme drawn up for the whole State. These plots (known as Conservator's plots) were formed in this range in the Ullurthanda locality and dibbling of seeds and planting pot plants was done in line. No clear-felling of forest growth was carried out. This was continued in subsequent year also. Till 1955–56 a total extent of 372 acres was thus planted up with *Prosopis* species, Neem, Vagai, Tamarind, *Acacias*, etc., and a small number of *Eucalyptus hybrid. Ailanthus excelsa* and *Dalbergia sissoo plants.* The results are not satisfactory and the stocking is rather poor due to different factors, such as poor rainfall, unhelpful soil and lack of perfection in technique. However, it may be pointed out that *Ailanthus excelsa* and *Dalbergia sissoo* have come up well in spite of the adverse factors.

75. *The future of the fuel working circle.*—Mettur town is still expanding steadily and the fuel requirements of this industrial area are on the increase. The eastern parts of the Palamalais where the coupes of the Palamalai and Mettur fuel series are situated are very easily accessible to the Mettur town and other localities nearby and these parts have suffered to an alarming extent from illicit removals. Even the future coupes or these series do not possess a possible stocking of 1 to 2 tons per acre. Consequently, it is decided to discontinue the working of these two series as they contain very little fuel growth and only serve to encourage and cover up illicit activities by the public contractors and to some extent the forest subordinates.

The average annual requirement of fuel of Mettur town will be about 4,000 tons. At present, this is met with by the two coupes of this range located at Ullurthanda and Komarayyanur and another situated along the Cauvery in the Dharmapuri Range of the Salem North Division. The fuel from Ajjappankoil series is removed and sold either at Bhavani or Mettur Dam depending upon price fluctuations. Hence the legitimate supply of fuel from the three coupes referred to above will be about 1,100 tons. The balance of requirement is met from illicit removals by ' head-load smugglers ' and from whom the people get their fuel at a nominal price, delivered at their doors. On an average, about 200 to 300 headloads are being pilfered daily from the forests nearly and brought into Mettur town. This sort of illicit activity can be reduced to a minimum, if legitimate sources of supply are made available to the public. To this end, it is proposed to lay out two extra full series within a distance of about 25 miles from Mettur Dam with an annual coupe of about 80 acres each in extent. These coupes will be located near about the Valankombai and Mulamadugupatti localities with a possible yield of about 10 to 12 tons per acre. From these, a further quantity of about 1,900 to 2,000 tons of fuel will become available to the public. These series will be known as the Palar fuel series and the Ullurthanda West series.

76. *Small timber.*—No definite records are available to show that these forests were worked earlier for small timber. Probably departmental working of these forests for agricultural implements to be sold through depots was attempted in the second decade of this century. But in 1928 two small timber-felling series were opened one each at Komarayyanur and Ullurthanda. Permits at 2 annas per headload were issued on specified days of the months by authorised subordinates. Timber was permitted to be removed on payment of the seigniorage rates prescribed from unreserves. Teak, *Hardwickia binata. Dalbergia latfolia* and *Pterocarpus marsupium* trees below 3 feet breast height girth were Prohibited from being felled. Dry fuel left after the extraction of the agricultural implements and timber could be removed on payment of ten annas a cart-load or one anna a head-load. *Hardwickia binata* fibre was sold at four annas a head-load.

This system was found to be an extremely wasteful one as large quantities of material were left unremoved and also it served as a cloak to illicit activities on an extensive scale. The coupes were not very popular with the public as they could and preferred to obtain their requirements themselves, through sources other than legitimate, by questionable means. No doubt, many reasons like wrong location of the coupes, insufficient stock of suitable species, cumbrous machinery for sale of permits, etc. were the reasons given out by the public as reasons for the unpopularity and failure of small timber coupes. Sri V. S. Krishnaswamy, in his working plan for the Kollegal division observes ' till a forest sense is developed in the public, it will be futile to hope that this working circle will ever be a success. In the circumstances, the working circle has been dropped. To-day the forest sense among the public has not developed any further, while their ingenuity to steal and organise such stealthy removals has been perfected to a large extent. This working circle will not be continued in this working plan also.

77. *Bamboo.*—No systematic exploitation was carried out in this tract prior to the 1933 working plan, though bamboo occurs extensively all over. But certain schemes were being drawn up and followed for short periods in defined localities. In 1917, a working scheme was drawn up for the bamboos in the Bargur and Bejjalatty blocks. A scheme for working the Tamarakarai bamboos was already in existence. The felling cycle adopted for these series was five years. In 1923 a revised scheme was prepared for bamboo exploitation in Bargur range. Six series were formed with a felling cycle of three years. All the six series were worked under the contract system. An additional series called the Kurumbanur series was formed when a consolidated working scheme was drawn up in 1928.

About this time semi-gregarious flowering of bamboo was observed in this range and it was felt desirable to exploit the entire bamboo area every year. Exploitation went on without any restriction regarding felling or extent of coupes from 1928–29 to 1930–31, when the coupe system was restored with great difficulty. Under the 1933 working plan, eleven bamboo felling series were formed in this range. These eleven series were continued to be worked under the 1942–43 working plan drawn up by Sri V. S. Krishnaswamy. A statement showing details regarding them has been given in Chapter III of Part I of this working plan.

The entire bamboo area of this range was stock-mapped in connection with the preparation of this working plan, with a view to assessing the quantity of bamboo that may become available for a paper pulp factory if located at Mettur Dam. While assessing the annual possibility, the bamboos from certain localities were reserved for local supply and also because it was felt that the cost of production of bamboos from those localities will be more than the price which a paper factory can afford to pay. The annual possibility thus calculated comes to about 12,189 tons. Of course, if the proposal to locate the paper pulp factory at Mettur Dam does materialise, it will not be possible to make the bamboos from a bulk of this range available for public. As a great part of the total quantity of the bamboos extracted from the bamboo series of this range is now transported to far off places in Tiruchirappalli and Tanjore districts, an equal quantity of bamboos for consumption in those parts will have to be met with from the resources of other forest divisions of the State. There will not be any difficulty however to continue to meet the strictly local demand of this tract.

78. *Grazing.*—As mentioned earlier in Chapter III, cattle-breeding is one of the major occupations of the people of the locality. In almost every village large herds of cattle are kept primarily for their value as potential manure producers. On the Bargur plateau cattle-breeding is an industry by itself. As such, providing facilities in the reserved forests for grazing is of paramount importance as the demand is great and the consequent revenue realised is also high. Grazing fee then was annas four per cow unit. In 1918, the grazing fees were doubled. In 1919, Mr. Hodgeson prepared a grazing scheme which was however not sanctioned, as it was felt unworkable. According to this scheme, a large number

of grazing and penning blocks were created. At that time only five grazing blocks were in existence in each range and these were continued. In 1921, as a result of the recommendations of the Forest Advisory Committee drastic changes were made :—

(1) Grazing blocks were abolished and the range became the unit. Cattle of one range may trespass into another range for a distance of half a mile or to the nearest water source.

(2) The penning licence fees of Rs. 12-8-0 per 100 cattle or less was abolished and penning was made free.

(3) Permission to carry knives was granted on application to the graziers.

(4) Period of closure of worked coupes was reduced to five years.

(5) Cattle were allowed to be taken to the nearest salt lick in the adjacent range.

In addition to the above, the forest department was required to improve the grazing facilities by providing watering places for the cattle and to provide for passage of cattle through closed coupes.

As a result of the above grazing was restricted only in fuel working circle, where only five of the youngest coupes of each series were closed to grazing. In 1926, as per the suggestion of the conservator all fuel coupes whether worked or not were thrown open to grazing without any restriction for a period of three years. From July 1930, the earlier system of closing the five youngest coupes of the fuel working circle was revived and this was extended to the areas in the pole working circle also. As a result, some of the heavily grazed areas adjacent to villages (in the pole working circle) were closed and this caused severe distress and hardship to the villagers. It was subsequently withdrawn in 1931–32 as it was also considered silviculturally unnecessary to restrict grazing in the pole working circle where the fellings were few and far between. In 1929, the following recommendations of the Agricultural Advisory Committee were accepted by the Government :—

(1) the grazing fees should not be raised;

(2) the forest department might encourage the cutting of grass;

(3) as an experiment penned cattle might be fed on cut fodder; and

(4) forests which require to be specially protected may be closed to grazing.

In 1932, the validity of the grazing permit was extended to the entire division provided the licence was bought at the highest rate prevalent.

Fodder grass is normally cut only in years of acute drought. Prior to 1931, a rate of three pies per head load was charged for removal of cut grass. After 1931, free removal of the same was permitted.

79. *Grazing under the* 1933 *working plan.*—Under the provisions of the 1933 working plan, the whole of the fuel working circle of about 23,000 acres and the timber working circle and the clear-felling working circle aggregating to 850 acres were closed to grazing. Inasmuch as these fuel series were located adjacent to the villages, this absolute closure of the fuel working circle created a severe hardship to the public. Hence, this provision was subsequently modified and the felled coupes were closed to grazing for a period of ten years including the year of felling. Grazing was permitted in the rest of the working circle, limited to the possibility calculated on the basis of 5 acres per cow unit, at normal rates. Penning which was hitherto free, was charged at the rate of rupee one per owner per 100 cattle or part thereof if in one range or Rs. 1–8-0 if penning in more than one range was desired.

Free removal of grass in headloads was permitted in all areas except in localities closed to grass cutting on Silvicultural or other grounds. Removal of cut grass in cart-loads was permitted at nominal rates varying from three to five annas per cart-load, from specified localities.

Burnt area in reserved forests could be closed to grazing by the District Forest Officer provided the area so closed did not exceed 1,000 acres at a time and he submitted a report immediately to the Collector and the Chief Conservator of Forests. If the burnt area exceeds 1,000 acres, the District Forest Officer was to submit a detailed report to the Collector and obtain his sanction to close the area for such time as may be necessary.

Grazing rates were halved in 1938-39 by the Government in G.O. No. 836, Development, dated 29th March 1938. In 1939, there was a further temporary reduction of 50 per cent even on these rates, on account of severe drought and famine condition.

The grazing year was changed from the fasli year to the period from 1st September to 31st August. Issue of grazing permits was changed over to sale through village officers on a commission basis on a post payment system, instead of through Permit Issuing Officers of the forest department as done till then. These prescriptions were continued in the later working plan drawn up by Sri V. S. Krishnaswamy in 1942-43. The permits were issued for the whole division and marginal grazing by the cattle of the Coimbatore North division was continued to be permitted and vice versa. Grazing permits were prescribed to be issued through the village officers on a commission basis but this has since been charged and permits are now issued by forest subordinates.

80. *Rotational grazing.*—Experiments on rotational grazing was attempted as per prescription of the 1933 working plan at Thattakarai. The experiment could not be completed due to various reasons.

81. *Deferred and rotational grazing.*—In 1939–40 a scheme for the introduction of deferred grazing followed by rotational grazing was sanctioned by the Government. The deferred system of grazing was introduced in 1940 in the Kumarayyanur fuel felling series coupes I to IV. A fee of one anna per cow unit over and above the normal fee was charged for this privilege. The coupes included in the experiment were the recently felled coupes, which were closed to grazing. One hundred and fifty-nine cow units were allowed to graze successively for 10 days in each coupe. At the end of forty days the coupes were again closed to grazing.

In the Kumarayyanur fuel felling series rotational grazing was introduced by the 4th October 1940. Grazing incidence was calculated at $2\frac{1}{2}$ acres per cow unit and cattle were permitted by special permits at the rate of 12 annas per cow unit.

Elaborate prescriptions for deferred and rotational grazing were made in the working plan for this division drawn up by Sri V. S. Krishnaswamy. Four and five worked fuel coupes which had enjoyed closure to grazing for a period of atleast three or four years and which are adjacent to each other were thrown open for deferred grazing. The coupes were gone over at the rate of about 10 days in each. The grazing incidence was fixed at one cow unit per acre only one cycle of grazing was permitted in these coupes. After the rainy season, if it was found that the response of the pasture to this type of grazing was good rotational grazing was introduced in these areas. The system of deferred and rotational grazing was introduced in this range and the result of its working during the period of the last working plan is given below.

Statement showing the area opened for deferred and rotational grazing with details of revenue realised for 1943–54.

BARGUR RANGE.

Serial number and year. (1)	*Area opened for grzaing.* (2)	*Number of cow units allowed.* (3)	*Revenue realized.* (4) RS. AS.	*Remarks.* (5)
1 1943–44	..	..	..	No information available.
2 1944–45	..	..	..	Do.
3 1945–46	..	..	..	Not tried in this Range.
4 1946–47	..	418	160 7	Area not available.
5 1947–48	..	446	184 15	Do.
6 1948–49	..	506	208 12	Do.
7 1949–50	..	329	129 1	Do.
8 1950–51	..	434	111 7	Do.
9 1951–52	..	95	5 15	Do.
10 1952–53	..	311	155 8	Do.
11 1953–54	2,472	140	21 14	....

From the statement above, it is apparent that both the deferred and rotational grazing schemes were not very successful and the response from the public was very poor. The people of these parts are satisfied with the ordinary grazing facilities available to them and do not see eye to eye with the benefits that are supposed to have been derived from this improved schemes of grazing at a higher cost. Further, restricting the cattle to a given paddock was not possible as there was no effective barrier for these paddock and hence the cattle appear to have grazed all over and the very purpose of this scheme was not achieved.

82. *The future.*—In as much as the response to these types of grazing has been poor in the past mainly due to their being attempted half-heartedly, it is proposed to discontinue these practices. But it is left to the District Forest Officer however, to introduce any such improved methods of grazing, if and when he feels that such schemes can be given a proper trial.

83. *Minor forest produce.*—Very few authentic records are available regarding the management of minor forest products prior to the 1933 working plan. The more important minor forest products of the area are gallnuts, avaram bark (cassia auriculata), Konnai (Cassia fistula) bark, tamarind, honey and wax, deer horns and sambhur horns and stone and tree moss. The 1933 working plan attempted at too great a detail in management, which however was unnecessary, considering the demand. It prescribed among other things the formation of gallnut and tamarind farms in specified localities all over this range. Planting up of Terminalia chebula along road margins at the rate of six spots per beat guard was prescribed. The results were not encouraging and this was discontinued and was not prescribed in the 1942–43 working plan. The 1942–43 working plan continued the prescription of exploitation under the contract system except in the case of honey and wax, deer horns, sambhur horns an elephant tusks which were to be collected departmentally. The same general prescriptions will be continued in this working plan also with minor charges. The unit of lease for tamarind is the range at present. But, it is proposed to have the forest section—the jurisdiction of a forester as the unit of lease for tamarind as it is felt that with smaller units than hitherto, we shall be attracting more competitors into the field resulting in better revenue and more through exploitation. *Dodonæa viscosa* fuel for use by potters, will also be sold as a separate item of minor forest produce.

84. *Fire protection.*—No scheme of elaborate fire protection was carried out in this range as there are no plantations of value that require such protection. The whole range was generally protected from fire by natural features and reserve lines. The expenditure incurred on fire protection and fire tracing operation is given below.

Statement showing the particulars regarding fire protection in Bargur Range from 1945–46 to 1954–55.

Serial number.	Year.	Area under fire protection.	Area burnt.	Amount spent.	Number of fires. Wilful.	Unknown causes.	Accident.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	1945–46	1,34,770	1,875	341– 0–0	..	23	..	23
2	1946–47	1,34,770	5,096	341– 0–0	..	26	..	26
3	1947–48	1,34,770	40	317– 4–0	..	2	..	2
4	1948–49	1,34,770	1,832	341– 0–0	..	25	..	25
5	1949–50	1,36,015	Not available	303– [illegible]–0	..	Not available	..	..
6	1950–51	1,34,770	1,886	463– 0–0	..	29	..	29
7	1951–52	1,34,770	457	374– 0–0	..	14	..	14
8	1952–53	1,34,770	553	375–10–0	..	19	..	19
9	1953–54	1,34,770	Nil.	Nil.	..	Nil.	..	Nil.
10	1954–55	1,34,770	456	2,314–14–0	..	21	..	21

List of roads in Bargur Range.

Serial number and name of the road.	Date of construction.	Capital cost.	Cost of maintenance till 1940-41.	Yearwar expenditure from 1941-1942-1954-1955. 1941-42	1942-43	1943-44	1944-45	1945-46
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		RS. A. P.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS.
1 Tamarakanai—Thalakanai Road (4 miles 1½ furlongs) ..	1913,1916 and 1933-34	4,780 2 0	1,408 11	158 9	159 8	152 0	231 4	8 42
2 Bejalatty—Bodatti bridle path (1 mile 7 furlongs) ..	1925-26	196 0 0	38 0	..	..	..	..	..
3 Sholagani—Doddamadugu bridle path (1 mile 7 furlongs)	1927-28	335 0 0	62 2	..	..	..	..	..
4 Ajjappankoil—Ullurthanda bridle path (8 miles—0 Furlongs)	1928-29	397 3 0	177 0	60 0	59 0	30 0	75 0	92
5 Thamarakarai rest house road (0 mile 2 furlongs 4 ch.)	1911	23 0 0	9 0	10 0	19 0	5 8	13 8	18
6 Tamarakarai—Ginigaikandy Road	..	5,116 0 0	(Transferred to District Board in G.O. Mis. No. 1180, Development, dated 6th May 1938.)					
7 Ginigaikandy—Stanley Reservoir Road (11 miles 4 furlongs.)	1938-40	6,110 13 0	1,271 10	462 5	594 12	402 9	837 0	968
8 Hoogium—Kuppathukombai cart-tract (1 mile 4 furlongs.)	1938-39	130 13 0	58 0	28 0	26 0	20 0	24 0	20
9 Soraikaimaduvu—Ullurthanda road (12 miles 5 furlongs.)	1945-47	4,001 13 0	..	..	..	..	..	..

Yearwar expenditure from 1941-42—1944-1945—cont.

Serial number and name of the road.	1946-47.	1947-48.	1948-49.	1949-50.	1950-51.	1951-52.	1952-53	1953-54.	1954-55.
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	..	RS. A.
1 Tamarakanai—Thalakanai Road (4 miles 1½ furlongs) ..	393 0	357 0	455 0	375 0	200 0	300 0	300 0	..	121 5
2 Bejalatty—Bodatti bridle path (1 mile 7 furlongs) ..	..	..	..	..	..	..	..	..	..
3 Sholaganai—Doddamadugu bridle path (1 mile 2 furlongs.)	..	..	..	..	..	..	..	..	..
4 Ajjappankoil—Ullurthanda bridle path (8 miles—0 furlongs.)	97 0	100 0	100 0	18 12	..	30 0	30 0	..	18 12
5 Thamarakarai rest house road (0 mile 2 furlongs 4 ch.)	21 0	5 0	8 0	10 0	10 0	9 8	10 0	..	10 0
6 Tamarakarai—Ginigaikandy Road	(Transferred to District Board in G.O. Mis. No. 1180, Development, dated 6th May 1938.)								
7 Ginigaikandy—Stanley Reservoir Road (11 miles 4 furlongs).	991 0	749 4	500 0	1,125 0	..	1,199 8	1,200 0	..	108 0
8 Hoogium—Kuppathukombai cart-tract (1 mile 4 furlongs.	20 0	20 0	20 0	20 0	..	180 0	20 0	..	6 9
9 Soraikaimaduvu—Ullurthanda road (12 miles 5 furlongs.)	551 0	551 8	480 0	1,048 9	..	1,494 12	1,494 10	..	377 12

List of residential buildings in Bargur Range.

Serial number.	Name of Buildings.	Year of construction.	Cost of land.	Cost of buildings.	Capital cost.	Cost of repairs till 1940–41.	Year war expenditure from 1941–42 to 1954–1955. 1941–42.	1942–43.	1943–44.	1944–45.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.		RS. A. P.		
1	Forester's quarters at Thattakerai (Old Range Office).	1912	..	1,049 11 0	1,049 11 0	141 3 0	..	..	..	..
2	Range Clerk's quarters at Thattakerai	1930	..	685 0 0	685 0 0	96 11 0	..	10 0 0	..	..
3	Subordinate quarters at Girkaigandy	1913	..	1,233 0 0	1,233 0 0	147 8 0	..	19 0 0	..	..
4	Subordinate quarters at Thattakerai	1913	..	1,992 12 0	1,992 12 0	112 12 0	..	24 0 0	..	..
5	Subordinate quarters at Thamarakerai	1930	..	2,402 0 0	2,402 0 0	103 13 0	..	23 14 0	..	..
6	Subordinate quarters at Koilnatham	1921	..	974 0 0	974 0 0	39 4 0	..	9 6 0	..	..
7	Range Officer's quarters at Mettur Dam	1927	..	2,752 0 0	2,752 0 0	62 2 0	..	26 0 0	..	..
8	Range Peon's quarter's at Mettur Dam	1927	..	334 0 0	334 0 0	12 3 0	..	21 3 0	..	..
9	Range Clerk's quarters at Mettur Dam	1927	..	1,348 0 0	1,348 0 0	86 12 0	..	10 0 0	..	..
10	Forester's quarters at Ullurthanda	1939	..	876 12 0	876 12 0	15 8 0	..	12 0 0	..	..
11	Forest Guard's quarters at Komarayannur ..	1952 1955	..	4,787 6 0	4,787 6 0	..	..	..	..	..
12	Subordinate quarters at Ullurthanda	1939	..	1,643 0 0	1,643 0 0	29 13 0	..	13 0 0	..	..
13	Subordinate quarters at Mettur Dam	1936	..	250 0 0	250 0 0	..	..	..	..	..
14	Forester's quarters at Mettur Dam	1936	5 0 0	570 0 0	575 0 0	..	..	..	..	..
15	Subordinate quarters at Nernigipet	1921	..	834 0 0	834 0 0	..	..	..	..	..
16	Subordinate quarters at Patramadugu	1941	..	758 12 0	758 12 0	..	..	..	..	..
17	'C' class Rest House at Thattakerai including Kitchen.	1912	..	2,441 0 0 }	2,465 0 0	382 13 0	..	..	..	..
	Cost of site	..	24 0 0							
18	Rest House and Outhouse at Girkaigandy ..	1906	..	..	1,750 0 0	28 9 0	..	62 0 0	..	..
19	Rest House at Thattakerai	1906	..	1,674 9 7 }	1,930 9 7	126 6 0	..	19 0 0	..	..
	Out House at Thattakerai	1909	..	256 0 0 }						
20	Rest House at Thamarakerai	1898	..	1,800 0 0 }	2,699 0 0	285 6 0	..	32 1 10	..	..
	Out House at Thamarakerai	1898	..	899 0 0 }						
21	Rest House and Outhouse at Koilnatham ..	1921	..	2,637 0 0	2,637 0 0	50 5 0	..	28 0 0	..	..
22	Inspection shed at Ullurthanda	1935	..	545 7 0 }	645 11 0	122 6 0	..	65 8 0	..	..
	Outhouse to the Inspection shed at Ullurthanda.	1936	–	100 4 0 }						
23	Sandalwood Godown at Thamarakerai	1931	..	728 14 0	728 14 0	9 11 0	..	8 7 0	..	..
24	Range Office at Mettur Dam .. .. .. } (Improvement latrine in 1954–55) .. .. }	1927	..	3,662 0 0 }	3,662 0 0	37 2 0	..	20 14 0	..	..

Yearwar expenditure from 1941-42 to 1954-55—cont.

Serial number.	Name of buildings.	1945-46. (12)	1946-47. (13)	1947-48. (14)	1948-49. (15)	1949-50. (16)	1950-51. (17)	1951-52. (18)	1952-53. (19)	1953-54. (20)	1954-55. (21)
		RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.		RS. A. P.
1	Forester's quarters at Thattakerai (Old Range Office).	150 0 0	27 0 0	13 0 0	9 0 0	18 0 0	..	..	25 0 0	..	20 0 0
2	Range Clerk's quarters at Thattakerai	15 0 0	13 0 0	167 0 0	10 8 0	5 0 0	..	..	15 0 0	..	16 0 0
3	Subordinate quarters at Girkaigandy	122 0 0	19 0 0	18 0 0	17 0 0	..	..	..	19 0 0	..	18 0 0
4	Subordinate quarters at Thattakerai	44 8 0	21 13 0	28 0 0	32 0 0	35 0 0	..	20 0 0	20 0 0	..	18 0 0
5	Subordinate quarters at Thamarakerai	26 0 0	25 0 0	24 15 0	32 0 0	20 0 0	..	20 0 0	25 0 0	..	25 0 0
6	Subordinate quarters at Koilnatham	23 0 0	305 0 0	15 0 0	15 0 0	35 0 0	..	76 0 0	20 0 0	..	19 0 0
7	Range Officer's quarters at Mettur Dam	95 0 0	65 0 0	48 11 0	50 0 0	35 0 0	..	46 0 0	50 0 0	..	85 0 0
8	Range Peon's quarters at Mettur Dam	8 11 0	34 0 0	5 0 0	3 15 0	5 0 0	25 0 0	5 0 0	5 0 0	..	43 0 0
9	Range Clerk's quarters at Mettur Dam	19 0 0	19 11 0	19 0 0	16 0 0	21 0 0	..	20 0 0	20 0 0	..	90 0 0
10	Forester's quarters at Ullurthanda	18 0 0	22 0 0	18 0 0	14 0 0	14 0 0	..	15 0 0	247 0 0	..	14 0 0
11	Forest Guard's quarters at Komarayannur ..	..	..	..	..	..	..	..	..	..	..
12	Subordinate quarters at Ullurthanda	26 0 0	32 0 0	25 0 0	26 0 6	25 0 0	..	25 0 0	60 0 0	..	..
13	Subordinate quarters at Mettur Dam	..	..	..	..	..	..	..	..	..	..
14	Forester's quarters at Mettur Dam	..	..	..	..	..	..	..	..	..	..
15	Subordinate quarters at Nernigipet	..	..	..	..	..	..	..	..	..	..
16	Subordinate quarters at Patramadugu	..	..	..	..	..	..	..	..	..	..
17	'C' class Rest House at Thattakerai including Kitchen .. Cost of site	46 0 0	78 0 0	6 0 0	48 0 0	14 0 0	..	15 0 0	15 0 0	..	..
18	Rest House and Outhouse at Girkaigandy ..	34 0 0	45 0 0	5 0 0	32 0 0	50 0 0	..	475 0 0	49 15 0	..	64 0 0
19	Rest House at Thattakerai .. .. Outhouse at Thattakerai	35 0 0	25 0 0	58 0 0	114 0 0	160 0 0	..	50 0 0	50 0 0	..	37 0 0
20	Rest House at Thamarakerai .. .. .. Outhouse at Thamarakerai	41 0 0	5 0 0	30 0 0	..	27 0 0	..	74 0 0	26 0 0	..	28 0 0
21	Rest House and Out house at Koilnatham ..	23 0 0	468 0 0	39 0 0	..	20 0 0	..	25 0 0	25 0 0	..	24 0 0
22	Inspection shed at Ullurthanda .. .. .. Outhouse to the Inspection shed at Ullurthanda	114 11 0	210 0 0	141 0 0	23 0 0	37 0 0	..	292 11 0	15 0 0	..	70 0 0
23	Sandalwood godown at Thamarakerai	10 0 0	11 0 0	7 0 0	8 0 0	..	..	10 0 0	..	..	10 0 0
24	Range Office at Mettur Dam .. .. .. (Improvement to latrine in 1954-55) ..	57 0 0	51 0 0	45 0 0	55 0 0	39 13 0	..	4,000 0 0	30 0 0	..	125 0 0

List of Wells in Bargur Range.

Serial number and name of wells. (1)	year of construction. (2)	Cost of land. (3)	Capital cost. (4)	Cost of repairs till 1940–41. (5)	Yearwar expenditure form 1941–42 to 1954–55. 1941–42. (6)	1942–43. (7)	1943–44. (8)	1944–45. (9)	1945–46. (10)
			RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
1 Well near the sub-line at Girkaigandy.	1911–12	..	410 0 0	27 3 0	5 4 0	..	..	..	6 0 0
2 Well near the old Rest House at Ullurthanda.	..	..	667 7 1	29 14 0	..	..	..	..	9 0 0
3 Well in Rest House compound at Thamarakerai.	1895	..	..	..	2 0 0	4 11 0	..	..	205 0 0
Well in the Range Officer's quarters at Thattakerai.	1911–12	..	855 0 0	34 0 0	1 0 0	4 11 0	..	..	12 0 0
5 New well at Girkaigandy ..	1937–38	..	61 3 6						
	1938–39	..	569 13 0						
	1939–40	..	233 0 0						
	1940–41	..							
	1941–42	..	1,043 0 0	..	..	4 10 0	8 7 0	..	..
			1,907 0 6						

Yearwar expenditure from 1941–42 to 1954–55—cont.

Serial number and name of wells.	1946–47. (11)	1947–48. (12)	1948–49. (13)	1949–50. (14)	1950–51. (15)	1951–52. (16)	1952–53. (17)	1953–54. (18)	1954–55. (19)
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
1 Well near the sub-line at Girkaigandy.	..	5 0 0	..	3 0 0	7 8 0	4 8 9	5 0 0	..	..
2 Well near the old Rest House at Ullurthanda.	..	5 0 0	10 0 0	3 8 0	3 8 0	4 8 0	5 0 0	5 0 0	..
3 Well in Rest House compound at Thamarakerai.	..	..	..	..	..	..	..	..	..
4 Well in the Range Officer's quarters at Thattakerai.	42 12 0	15 0 0	15 0 0	3 8 0	9 8 0	4 8 0	5 0 0	5 0 0	..
5 New well at Girkaigandy	..	..	10 0 0	..	..	..	..	5 0 0	..

List of Tanks in Bargur Range.

Serial number. (1)	Name of the tank. (2)	year of construction. (3)	Capital cost. (4)	Cost of maintenance till 1940–41. (5)	1941–42. (6)	1942–43. (7)	1943–44. (8)	1944–45. (9)	1945–46. (10)
			RS. AS.						
1	Allihalla Bavi	1944–45	290 0	..	..	..	..	..	..
2	Tamarakarai tank	1945–46	544 0	..	..	..	..	..	..
3	Gowdevi Kerai	1947–48	275 0	..	..	..	..	..	..
4	Doddachikkan Kerai	1948–49	334 0	..	..	..	..	..	..
5	Do.	Do.	214 0	..	..	..	..	..	..
6	Konnathu Bavi	Do.	216 0	..	..	..	..	..	..
7	Komathu Kerai or Kolachetti Kerai	Do.	154 8	..	..	..	..	..	..
8	Alasa Kerai	Do.	311 0	..	..	..	..	..	..
9	Lokkerai	Do.	110 0	..	..	..	..	..	..
10	Alanai Kerai	Do.	85 0	..	..	..	..	..	..
11	Kirkan Kerai	1945–46	392 13	..	..	..	..	..	..
12	Kolanai hall tank	1944–45	138 0	..	..	..	..	..	..
13	Neeralkerai	Do.	324 0	..	..	..	..	..	..
14	Ajjappan Kuttai	Do.	317 0	..	..	..	..	..	..
14	Dinappatti pallam	Do.	334 0	..	..	..	..	..	..
16	Karanai betta Tank	Do.	208 0	..	..	..	..	..	..
17	Kobai Kerai	Do.	235 0	..	..	..	..	..	..
18	Chinna Sholanai	Do.	99 0	..	..	..	..	..	..
19	Hullikerai	Do.	599 0	..	..	..	..	..	..
20	Sanarakan	Do.	15 0	..	..	..	..	..	..
21	Bolichetty well	1945–46	25 0	..	..	..	..	..	..
22	Kodu Kerai	..		..	..	..	..	..	..

		1946–47. (11)	1947–48. (12)	1948–49. (13)	1949–50. (14)	1950–51. (15)	1951–52. (16)	1952–53. (17)	1953–54. (18)	1954–55. (19)
					RS. AS.		RS. AS.	RS. AS.	RS. AS.	
1	Allihalla Bavi	..	..	..	2 0	..	..	269 7	..	..
2	Tamarakarai tank	..	..	..	..	..	..	..	..	..
3	Gowdevi Kerai	..	..	..	..	..	..	..	..	..
4	Doddachikkan Kerai	..	..	..	..	..	..	..	53 11	..
5	Do.	..	..	..	..	..	..	..	..	..
6	Konnathu Bavi	..	..	..	..	..	..	..	..	..
7	Komathu Kerai or Kolachetti Kerai	..	..	..	..	..	..	..	..	..
8	Alasa Kerai	..	..	..	..	..	..	..	..	..
9	Lokkerai	..	..	..	..	..	..	..	..	..
10	Alanai Kerai	..	..	..	..	..	..	150 0	..	..
11	Kirkan Kerai	..	..	..	..	..	..	..	81 0	..
12	Kolanai hall tank	..	..	..	224 6	..	414 8	..	..	..
13	Neeralkerai	..	..	..	..	..	138 0	..	..	..
14	Ajjappan Kuttai	..	..	..	..	..	..	..	..	..
15	Dinappatti pallam	..	..	..	..	..	..	..	..	..
16	Karanai betta Tank	..	..	..	..	..	..	..	..	..
17	Kobai Kerai	..	..	..	..	..	..	..	..	..
18	Chinna Sholanai	..	..	..	..	..	..	..	..	..
19	Hullikerai	..	..	..	..	..	..	..	..	..
20	Sanarakan	..	..	..	..	..	..	..	..	..
21	Bolichetty well	..	..	..	..	..	358 0	..	..	..
22	Kodu Kerai	..	..	..	..	..	..	285 0	..	..

SECTION 4—LIST OF OFFICERS WHO HELD CHARGE OF THE DIVISION.

(1)		(2)
1st April 1941 to 30th May 1943 ..	..	Sri N. S. Ghate.
1st June 1943 to 12th January 1944	..	Sri S. Narayanaswamy Iyer
13th January 1944 to 12th May 1945	..	Sri A. V. Sundaram, M.A.
13th May 1945 to 7th July 1945 ..	..	Sri K. Sankarayanana Rao.
8th July 1945 to 4th June 1946 ..	..	Sri A. V. Sundaram, M.A.
5th June 1946 to 19th June 1946 ..	..	Sri H. R. M. Law.
20th June 1946 to 20th May 1947 ..	..	Sri A. V. Sundaram, M.A.
21st May 1947 to 19th July 1947 ..	..	Sri C. Sreedaramannadiyar.
20th July 1947 to 14th August 1947	..	Sri A. N. Sarma, M.A.
15th August 1947 to 23rd September 1947.		Sri M. M. Mandanna.
24th September 1947 to 7th October 1947..		Sri P. Madhavan Nair.
8th October 1947 to 7th July 1948	..	Sri M. M. Mandanna.
8th July 1948 to 21st October 1948	..	Sri K. A. Bhoja Shetty.
22nd October 1948 to 13th June 1950	..	Sri Muddayya.
14th June 1950 to 24th September 1950	..	Sri M. M. Mandanna.
25th September 1950 to 15th November 1950.		Sri P. A. Venkataraman.
16th November 1950 to 6th December 1950.		Sri V. Govinda Menon.
7th December 1950 to 22nd July 1953	..	Sri P. Narayanan Nair.
23rd July 1953 to 19th August 1953	..	Sri P. Ramachandran.
20th August 1953 to 12th October 1953	..	Sri V. Govinda Menon.
13th October 1953 to 2nd April 1954	..	Sri P. Venkataraman.
3rd April 1954 to 1st September 1954	..	Sri T. Achayya.
2nd September 1954 to 2nd November 1954		Sri Marcel D'Souza.
3rd November 1954 to 24th April 1955	..	Sri K. Durai Raj.
25th April 1955 to 6th August 1956	..	Sri K. Thirumalai Raj.
6th August 1956 till date	..	Sri K. Rama Gowda.

Section —5 Past Revenue and Expenditure.

85. Statements of past revenue and expenditure are furnished below :—

STATEMENT 'Q'.

Statement showing the annual revenue in the past in Kollegal division from 1942 to 1955.

Serial number and Particulars of Working Circle, etc.	1942–43	1943–44	1944–45	1945–46	1946–47	1947–48	1948–49
		RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.
1 Reserve Sandal	..	1,66,073 0	1,61,380 0	1,83.259 0	3,59,721 0	83,3?5 0	1,99,778 0
Village Sandal	..	26 2	5 12				
	..	311 8	13,607 0				
2 Timber	..	5,569 14	35 10	1,120 0	5,869 0	3,562 0	1,24) 0
3 Fuel	..		44,812 11				
4 Bamboos	..	49,057 4	3 5	42,265 0	80,066 0	76,120 0	1,28,221 0
5 Grazing and Fodding grass	..	7,896 3	9,086 12	9,738 0	15,159 0	13,494 0	28,902 0
6 Minor Forest Produce	..	28,308 10	25,303 15	26,835 0	25,211 0	2,531 0	26,365 0
	..	7,084 13	6,305 2				
7 Miscellaneous including	..	310 14	337 5	4,867 0	12,129 0	18,999 0	15,541 0
revenue from unreserve	..	4,400 15	5,090 7	8,508 0	8,143 0	9,702 0	16,269 0
fine, etc.	..	150 0	167 10				
	..	529 4	1,060 0				
	..	1,245 11	11,259 2				
8 Refunds	..	..	..	82 0	268 0	26 0	114 0
	18,82,715	2,71,565 0	2,68,563 11	2,76,572 0	5,06,298 0	2,30,571 0	4,16,385 0

Serial number and Particulars of Working Circle, etc.	1949–50	1950–51	1951–52	1952–53	1953–54	1954 55
	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.	RS. A.
1 Reserve Sandal Village Sandal	3,59,026 5	1,33,346 0	2,43,604 0	1,27,769 0	2,23,511 0	1,91,874 0
						5,892 3
2 Timber	3,892 0	2,579 0	12,071 0	6,145 0	7,378 0	1,223 11
						25,151 14
3 Fuel	24,260 0	45,158 0	47,066 0	44,059 0	2,713 4	32,786 3
4 Bamboos	20,862 0	17,081 0	31,781 0	45,796 0	31,317 10	79,954 15
5 Grazing and Folding grass	27,169 0	28,363 0	28,829 0	30,059 0	..	32,879 2
6 Minor Forest Produce	24,056 0	23,717 0	28,562 0	14,984 0	13,265 15	15,160 0
7 Miscellaneous including revenue from unreserve fines etc.	68,405 0	13,771 0	27,996 0	46,873 0	6,764 5	–
8 Refunds	544 0	119 0	150 0	..	110 0	180 0
	5,28,671 0	2,64,015 0	4.19,859 0	3,13,665 0	3,09,648 11	3,84,912 4

Note.—Represents the total revenue for the entire division including Kollegal and Ramapuram Ranges.

STATEMENT 'Q'—*cont.*

Statement showing the annual expenditure of Kollegal Division from **1942–43** *to* **1954–55.**

Particulars.	1942–43.	1943–44.	1944–45.		1945–46.	1946–47.	1947–48.	1948–49.	1949–50.	1950–51.	1951–52.	1952–53.	1953–54.	1954–55.		
(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		
			RS.	AS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	AS.	PS.
Exploitation	..	..	9	4	..	..	..	..	..	..	..	..	..	..		
			7,857	9	16,444	24,906	3,953	8,999	20,546	7,350	13,628	25,290	6,859	10,827	0	0
Regeneration	..	..	1,101	6	2,716	606	1,044	1,077	1,009	518	80	228	8,816	729	9	6
Development Scheme ..	..	..	..		..	..	..	..	..	..	..	..	..	22,530	3	6
Fire protection	..	..	1,413	12	1,814	1,703	1,490	1,565	2,361	1,981	2,442	2,717	2,294	2,313	14	0
Roads and bridges	..	..	12,624	10	19,066	16,732	18,237	15,810	18,328	38,514	1,00,304	76,929	8,293	27,254	7	0
Building and other works ..	..	..	28 195 5,361 264	6 4 8 11	10,114	9,059	6,654	7,432	5,076	2,180	9,022	8,594	1,541	7,903	0	0
Pay, allowances and contingencies.	..	..	10,114 9,282 31,155 1,833 319 557 12,776 75 2,362 77	2 4 0 8 2 0 0 0 4 1	90,925	98,128	1,06,880	1,22,171	88,624	1,02,308	1,06,136	1,03,432	1,19,697	1,19,792	3	0
Direction and proportionate ..	..	..														
Capital outline	..	..														
Miscellaneous	..	..	1,936	8	2,973	1,614	3,170	2,313	11,877	3,932	7,078	6,162	4,639	5,478	5	9
Total ..	10,87,899	13,00,648	99,349	1	1,44,052	1,52,748	1,41,373	1,59,367	1,47,821	1,57,783	2,38,690	2,23,262	1,51,919	1,96,828	10	9

NOTE.—Figures represent the expenditure of the entire Kollegal division including Kollegal and Ramapuram ranges.

CHAPTER VI—STATISTICS OF GROWTH AND YIELD.

86. *General.*—No works of special interest from the silvicultural point of view are carried out in this range. The teak plantations raised are small in extent and attempts to arrive at any yield figures are not likely to be conclusive but on the other hand likely to be misleading due to the extremely unfavourable conditions that had prevailed.

Sandal, being the important utilizable tree species in this division, the following outturn statement, obtained from the yield figures relating to the period from 1942 to 1954 is given. Outturn figures under " A " columns were based only on the heartwood trees extracted, while those under " B " give the details taking into consideration all the trees enumerated. " C " columns give the percentage of sapwood trees on the total trees enumerated in each girth-class of the different series.

Statement showing the average outturn of sandalwood and percentage of sapwood trees in the reserve sandal series under each girth class in Bargur Range.

A. Average outturn per tree on trees having heartwood.

Serial number and name of series.	0–6″			6″–12″		
	A	B	C	A	B	C
	LB.	LB.		LB.	LB.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Bargur	1·43	0·23	84	1·43	0·42	71
2 Bejjalatty	0·02	0·004	83	0·006	0·003	42
3 Koilnattam	0·18	0·04	77	0·01	0·007	46

B. Average outturn per tree enumerated.

	12–18″			18–24″		
	A	B	C	A	B	C
	LB.	LB.		LB.	LB.	
	(8)	(9)	(10)	(11)	(12)	(13)
1 Bargur	0·7	0·55	22	7·0	5·75	2
2 Bejjalatty	0·07	0·06	8	0·92	0·85	8
3 Koilnattam	0·08	0·07	10	0·09	0·89	1

C. Percentage of Sapwood trees on trees enumerated.

	24″–30″			30–36″			36″ & over.		
	A	B	C	A	B	C	A	B	C
	LB.	LB.		LB.	LB.		LB.	LB.	
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1 Bargur	2 11·11	2 11-11	..	5 13·0	..	..	..	..	..
2 Bejjalatty	10·63	10·32	3	3 5·9	3 59	..	5 15·0	5 15·0	..
3 Koilnattam	6·18	6·18	..	25·4	25·4	..	7 25·48	7 25·48	..

Statement showing the average outturn of sandalwood and percentage of sapwood trees in the village sandal series under each girth class in Bargur range.

A. Average outturn per tree on trees having heartwood.

Serial number and name of series.	0–6″			6″–12″		
	A	B	C	A	B	C
	LB.	LB.		LB.	LB.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Koilnattam	0·04	0·006	84	0·015	0.006	61
2 Devarmalai	0·03	0·007	78	0·009	0·006	37
3 Tamarakarai	0·02	0·005	77	0·013	0·006	43

B. Average outturn per tree on trees enumerated.

	12″–18″			18″–24″		
	A	B	C	A	B	C
	LB.	LB.		LB.	LB.	
	(8)	(9)	(10)	(11)	(12)	(13)
1 Koilnattam	0·06	0·05	22	0·14	0·13	0·8
2 Devarmalai	0·07	0·06	6	0·5	0·49	0·4
3 Tamarakarai	0·08	0·076	4	0·64	0·63	0·9

C. Percentage of sapwood trees on trees enumerated.

	24–30″			30–36″			36″ and over		
	A	B		C			A		
	Q LB.	Q LB.		Q LB.	Q LB.		Q LB.	Q LB.	
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	22)
1 Koilnattam	5.32	5·3	12	24·3	24·3	..	1 22·84	1 22·84	..
2 Devarmalai	4·12	4·09	1	18·69	18·69	..	2 6·99	2 6·99	..
3 Tamarakarai	8·05	8·02	0·5	1 6·53	1 5·93	1·7	3 17·15	3 17·15	..

PART II

Future management discussed and proposed.

CHAPTER I—BASIS OF PROPOSALS.

SECTION 1—GENERAL OBJECTS OF MANAGEMENT.

87. *Objects of management.*—This working plan deals with the forest of Bargur Range of the Coimbatore North Division. This Range along with the Kollegal and Ramapuram Ranges of the adjoining Kollegal Division of the Mysore State constituted one Division known as the Kollegal Forest Division, till the recent Re-organisation of States. The main objects of management of the forests of this tract are (1) to meet the demand of the public for such major and minor forest products as are available in this tract, in a sustained manner, with due regard to the principles of silviculture and to maintain the large tracts of the Reserved Forests of the locality in a productive condition to the extent possible in perpetutity in the larger interests of the country; (2) to realise the maximum sustained financial return from the forests of the tract.

SECTION 2—METHODS OF TREATMENT ADOPTED.

88. *Methods of treatment.*—To realise the objects of managements detailed above, the working of these forests is regulated by the creation of the following Working Circles :—

1. Reserve Sandal Working Circle.
2. Village Sandal Working Circle.

Extraction under these Working Circles will be confined to removal of dead trees only under the natural selection system but for a few exceptions under the Village Sandal Working Circle.

3. Fuel Working Circle for supply of fuel to the people of the industrial town of Mettur Dam mainly and other villages nearby. The forests will be worked under simple coppice system.

4. The Shanar Pollard Working Circle has been created to meet in a sustained manner the requirement of the local jaggery producers for brushwood, the forest being worked under simple coppice system.

5. The Bamboo Working Circle for working the bamboos under the usual type of selection system.

6. The Grazing Working Circle regulating to grazing of cattle in the forests on permits.

7. The Minor Forest Produce Working Circle for leasing out the right to collect the useful Minor Forest Produce of the forests.

Details of the various methods of treatment are discussed under each Working Circle.

SECTION 3—PERIOD OF THE WORKING PLAN.

89. This Working Plan will be in force from 1957–58 to 1971–72.

CHAPTER II—WORKING PLAN FOR THE RESERVE SANDAL WORKING CIRCLE.

SECTION 1—GENERAL CONSTITUTION OF THE WORKING CIRCLE AND CHARACTER OF VEGETATION.

90 *Constitution.*—The reserve sandal working circle includes all acres in the reserved forests of this range, in which sandal occurs naturally and in sufficient quantity to be worked conveniently and economically.

91. *Area.*—The working circle covers an area of 57,354 acres. Non-sandal area have necessarily been included in some cases to give natural features as the boundaries for the felling series. The working circle is devided into felling series as detailed below:—

(i) Bargur series;

(ii) Bejjalatty series;

(iii) Koilnatham series; and

(iv) Palamalai series.

92. *Character of vegetation.*—Sandal occurs well distributed, over the entire Bargur and Palamalai hill and the vegetation occurring in the sandal type has already been discussed in detail in Chapter II of Part I of this Working Plan.

SECTION 2—ANALYSIS AND VALUATION OF THE CROP.

83. No detailed stock mapping of sandal in the reserve forests was done now. As the yield of sandal is only from the dead trees, this was not attempted since it was felt unnecessary. The yield for the last 12 years from 1942–43 to 1954–55 is given in Chapter III of Part I. This will give a fair idea of the average yield that can be expected. The present stocking in the reserve forests is good and the average yield in the past may reasonably be expected to be maintained during the period of this working plan also.

SECTION 3—METHOD OF TREATMENT.

94. *Silvicultural system.*—The silvicultural system may be described as 'Natural selection system' under which only dead sandal trees will be exploited.

95. *Felling cycle.*—The present felling cycle of six years will be continued in future also.

96. *Division into coupes.*—The existing location and arrangement of the coupes will be continued in future also as the subordinate concerned are well conversant with the limits of these coupes. *But the numbers of the coupes have been modified so as to be in conformity with the numbers of the coupes worked in the other ranges of the Coimbatore North division.* Further strictly equiproductive coupes cannot possibly be managed, as the death in sandal, or any living thing for that matter, does not conform to any rigid law.

97. *Calculation of the possiblity.*—In the 1933 working plan the annual possibility had been fixed at 56·9 tons of sandal heartwood for the whole of Kollegal division as constituted then assuming an annual mortality of 4·9 per cent of each class, after a detailed stock mapping of the then growing stock. Naturally enough the actuals in the subsequent years have varied very much from this figure as the mortality among sandalwood is not controlled by any rigid laws. Consequently, during the revision of this plan in 1942–1943, a possibility of 47 tons per annum was indicated based on the average annual yield from 1933–1934 to 1042–43. This was the figure for the entire Kollegal division including the Kollegal and Ramapuram Ranges. The annual possibility has been calculated now on the average of the last 12 years and will be about 30 tons from the forests of this range. Even this figure cannot be taken to represent the correct yield to be anticipated by any manner number of means.

SECTION 4—METHOD OF EXECUTING THE FELLINGS.

98. *Regulation of working.*—Extraction will be regulated by area irrespective of the outturn. One coupe will be worked each year in each of the series. The incidence of spike in these forests is not very great at present but if spike does appear in virulent from resulting in great mortality of sandal, working outside the prescribed coupe may also be done on the orders of the Conservator of Forests.

99. *Agency of felling.*—Sandal will be continued to be extracted departmentally as at present.

100. *Method of extraction.*—All dead sandal trees occurring in the groups of the year will be extracted in accordance with the sandalwood extraction rules in force.

SECTION 5—TABULAR STATEMENT OF FELLINGS.

101. *Sequence of working.*—The sequences of working in which the different coupes should be worked during the currency of this working plan is as follows :—

Number of coupe.	Years of working.		
II	1957–58	1963–64	1969–70
III	1958–59	1964–65	1970–71
IV	1959–60	1965–66	1971–72
V	1960–61	1966–67	
VI	1961–62	1967–68	
I	1962–63	1968–69	

102. *Details regarding coupes.*—The details regarding the coupes are given in the statement below :—

Description of the Reserve Sandal Series, Bargur Range.

Serial number and range. (1)	*Reserved Forest.* (2)	*Felling series.* (3)	*Total area.* (4)	*Boundaries.* (5)
			ACRES.	
1 Bargur	North Bargur.	Bargur (bit i).	14,43,600	*North.*—From Maniyarhalla a streamlet; a line from 3070 to a point on Kollegal-Bhavani Road; part of the road and foot-path to Madeswaran koil; along the streamlet to 3400 near Gummaparai; ridge to 3480; along the streamlet to 2730; part of Sithavaraipallam; ridge to 3400; a line to 3310 and then to 3830 along the streamlet to 2330; Araikadavu halla and streamlet to 3330; a line to a point south of 3210 and then a line to Padavakallu Madeswarkoil. *East.*—From the Padavakallu Madeswarkoil a line to 1760 through 3200; along the streamlet to Karanabetta 3900; ridge to 3680; Karanamalai a line to 3631; streamlets to 3310 streamlets Tattakarai halla and Dodda halla. *South.*—From a point on Doddahalla, southern boundary of North Bargur reserved forest upto Manizar halla. *West.*—Maniyar halla.
Bargur	North Bargur.	Bargur (bit ii).	..	*North.*—Range boundary. *East.*—Thattakarai pallam up to 1250. *South.*—From a point on Tattakarai pallam near 1250 a streamlet to 2700 a line to 3190 Bisakatimmalai, ridge to 2,580 thence a line and streamlet to Uppunir pallam; the pallam and streamlets to 1870; ridge to Kobbanguddai Streamlet to Palar. *West.*—Range boundary part.
2 Bargur	North Bargur, South Bargur and Tattakarai.	Bejjalatty ..	11,428·00	*North.*—From the point where Southern boundary of Sondapur enclosure and Tamarakarai-Sondapur foot-path meet; Sondapur enclosure line part: southern boundary of North Bargur Reserved Forest, Doddahalla, Padagutatti halla to a point where it crosses Devarabetta Ullurthanda foot-path up to Nagarathaswami koil a line to 3020 and Kalkadumalai; ridge to 3274, 3419 Kambukarai and streamlet to 1990. *East.*—From 1990, Nilavarai halla, and streamlet to 3750, Bothaikumbamalai; then streamlets to a point west of 2930 Aliga Akkanni streamlets and a line to Madeswarankoil, thence again a streamlet to a point on the southern boundary of North Bargur Reserved Forest east of 990 Gulliyettu Madugu. *South.*—Range boundary part. *West.*—Range boundary part eastern and northern boundaries of Tamarakarai enclosure line; Bargur ghat road part and foot-path from Tamarakarai to Sondapur.
3 Bargur	North Bargur.	Koilnattam (bit i).	19,645.00	*North.*—Range boundary. *East.*—Western boundary of Velampatti enclosure; Velampatti-Gudalur foot-path; streamlet to 1530 and to a point on the ridge south of 2560 Karadi Ora; ridge to 2050, 2894, Iralakalbetta 2290, Iddibetta 2350, 2700, 2854, Baragana Kombaihalla, the halla and streamlet to 2370; ridge to 2490, 2170 Kambada Oddu; streamlet part of Guttayur east enclosure line; foot-path and streamlets to 1730. 2300, ridge 2690 Jenkalbarai; 2750, 3030 Ammanibarai betta and 2540; a line to a point on Makkanpalayam foot-path up to Palar. *South.*—Range boundary. *West.*—Range boundary.

Bargur	North Bargur Tamarakarai and South Bargur.	Koilnattam (bit ii).	..	*North.*—From 2770 streamlets to 3200 and 4004 Buthubarai streamlets to 3340 and to a point west of 4550; streamlet to 3810; Vellimoda halla, Maniyar halla upto Dolli enclosure line; south east and north-boundaries of the enclosure; the western boundary of Tamarakarai Reserved Forest, southern boundary of Bargur enclosure, the northern boundary of Tamarakarai Reserved Forest and western and Southern boundary of Sondapur enclosure. *East.*—Sondapur-Tamarakarai foot path, part of northern and western boundaries of Tamarakarai enclosure. *South.*—Part of range boundary northern boundary of Talakarai enclosure; part of southern boundary of Tamarakarai Reserved Forest; Range boundary part up to Koilnattam enclosure line; thence north and south along the Koilnattam enclosure to its southern most point part of Range boundary. *West.*—Part of Range boundary streamlet to 3480, ridge to 3320, 3620, and again streamlets to the starting point of northern boundary.
Bargur	South Bargur.	Koilnattam (bit iii).	..	*North.*—Range boundary. *East.*— Do *South.*— Do. *West.*—Part of eastern boundary of Koilnattam enclosure.
4 Bargur	Palamalai ..	Palamalai.	14,239	The entire Reserved forest except a portion to the north of Mannapunchi-Kinathukadu footpath Ramanpali enclosure line and the line joining it with 3674 and Palamalai under Adivaram.

Description of the Semi Sandal Coupes, Bargur Range.

Serial number and name of felling series.	*Coupe No.*	*Total area.*	*S.I. sheet number.*	*Boundaries.*
(1)	(2)	(3)	(4)	(5)
Bargur	I	1,751·00	30 and 37 ..	*North.*—Kathiar. *East.*—Part of eastern boundary of felling series (bit I). *South.*—Part of southern boundary of the felling series (bit I). *West.*—Eastern boundry of coupe V and VI.
	II	2,303·00	30 and 37 ..	*North.*—Streamlet from Thackan oddu running to maniyar halla. *East.*—Part of western boundary of Bargur enclosure up to Kavalmanai, Gurrappan Oddu Thydaguddymalai. *South.*—Western boundary of Dolli enclosure. *West.*—Part of maniyar halla,
	III A	3,318·00	30	*North.*—Part of northern boundary or the felling series (bit I). *East.*—Thattakerai siphaphally foot path and Bargur enclosure line *South.*—Northern boundary of coupe II. *West.*—Part of maniyar halla.
	III B	1,870·00	25	Bit II of the felling series.

Serial number and name of felling series.	Coupe number.	Total area.	S.I. Sheet number.	Boundaries.
(1)	(2)	(3)	(4)	(5)
Bargur —*cont.*	IV	3,007·00	30	*North.*—Part of northern boundary of the felling series (bit I). *East.*—Part of eastern boundary of the felling series (bit I). *South.*—Kathiar and Chinna Sholaganai Usimalai foot-path. *West.*—Part of Bargur enclosure line and eastern boundary of coupe III-A.
	V	1,676·00	30	*North.*—Chinna Sholaganai—Usimalai foot-path. *East.*—Chinna Sholaganai—Sodapur foot-path. *South.*—Ullurthanda—Bargur foot-path. *West.*—Part of eastern boundary of Bargur enclosure.
	VI	971·00	30	*North.*—Southern boundary of coupe V. *East.*—Thattakerai halla part and streamlet to Thattakerai halla part of Bargur Sodapur footpath. *South.*—Part of the southern boundary of the felling series (bit I). *West.*—Part of eastern boundary of Bargur enclosure.
2 Bejjalatty	I	1,456·00	38	*North.*—Part of northern boundary of the felling series. *East.*—Vellimalai-Ullurthanda foot-path. *South.*—Bejjalaty enclosure line (part). *West.*—Devarabetta-Ullurthanda foot-path.
	II	824·00	37	*North.*—Tamarakerai-Eratty foot-path. *East.*—Eretty anclosure west boundary. *South and west.*—Range boundary.
	III	1,031·00	37 and 38 ..	*North.*—Part of Bejjalatty enclosure line. *East.*—Eratty—Skilim foot path. *South.*—Range boundary part and Eratty enclosure line. *West.*—Eastern boundary of Tamarakerai Reserved Forest.
	IV	3,868·00	37 .. .. 31,37 and 38 ..	*North.*—Part of northern boundary of the felling series. *East.*—Devarabetta Ullurthanda footpath and part of Bejjalatty enclosure line and western boundary of coupe XII. *South.*—Eratty enclosure line and northern boundary of coupe II.
	V	790·00	38	*North and East.*—Part of Bejjalatty enclosure line. *South.*—Karmaibhavi halla ; streamlet and part of range boundary. *West.*—Eastern boundary of coupe III.
	VI A	3,213·00	38	*North.*—Part of felling series boundary (Karneibhavi hally). *East.*—Eastern boundary of the felling series. *South.*—Range boundary. *West.*—Part of eastern boundary of Bejjalatty enclosure of Vellimalai Ullurthanda footpath.
	VI B	246·00	38	*North.*—Southern boundary of coupe V (part). *East.*—Part of Bejjalatty enclosure. *South.*—Range boundary. *West.*—Southern boundary of coupe V (part).
3 Koilnatham	I A I B	1,300·00 6,332·00	29, 30, 36, 37 and 44. ..	*North.*—North of western boundary of the felling series (bit II). *East.*—Western boundary of coupe IV and part of Koilnattam enclosure line bit I of the felling series. *South.*—Northern boundary of coupe VI. *West.*—Part of western boundary of the felling series.

	II	3,007·00	37	*North.*—Part of northern boundary of the felling series (bit II). *East.*—Part of eastern boundary of the felling series (bit II). *South.*—Chikka-Dolli-Tamarakerai footh path. *West.*—Part of Dolli enclosure line and part of northern boundary of the felling series (bit II).
	III	975·00	37	*North.*—Southern boundary of coupe II. *East and south.*—Range boundary. *West.*—Streamlet and Talakerai Chikka Dolli footpath.
	IV	4,200·00	37	*North.*—Part of northern boundary of the felling series (bit II). *East.*—Western boundary of coupe III. *South.*—Range boundary and part of Koilnatham enclosure line. *West.*—Chikka Sengulam Guttayur footpath.
	V	2,558·00	37 and 45 ..	*North, east and south.*—Range boundary. *West.*—Part of eastern boundary of Koilnatham enclosure line.
	VI	1,273·00	44	*North.*—Southern boundary of north Bargur Reserved Forest. *East.*—Part of Koilnatham enclosure line. *South and west.*—Range boundary.
4 Palamalai	I	710·00	.. ..	*North.*—By line joining Ramanpatti enclosure line 3674 and Vannampalli Oddu. *East.*—By Palamalai reserved forest boundary. *South.*—By Ramanpatti Shikanur footpath. *West.*—By Ramanpatti enclosure line.
	II	700·00	.. ..	*North.*—By Ramanpatti Shikanur footpath. *West.*—By Palamalai Reserved Forest boundary. *South.*—By Pathramadavu Kadugapatti Shikanur footpath. *West.*—By Ramanpatti enclosure line.
	III	442·00	.. ..	*North and east.*—By Pathramadavu-Kadugapatti Nerinjipet footpath. *South and west.*—By Ramanpatti enclosure line and Patramadavu-Sothankadu Jarinjipet footpath.
	V	3,170·00	.. ..	*North.*—By Nagambuthi Sothankadu footpath. *East.*—By Sothankadu-Nerinjipet footpath. *South.*—By Palamalai Reserved Forest boundary. *West.*—By Pitchilikaradu-Nagambuthi footpath.
	VI	6,763·00	.. ..	*North.*—By Kannamuchi-Kinathukadu footpath and Ramanpatti enclosure line. *East.*—By Pitchilikaradu Nagambuthi Sothankadu footpath. *South and west.*—By Palamalai Reserved Forest boundary.

SECTION 6—SUBSIDIARY REGULATIONS.

103. *Artificial regulation.*—Artificial regeneration of Sandal will be taken up by raising Sandal propagation centres in areas where sandal is found to be totally absent or deficient.

104. *Mode of formation.*—Five plots of about 20 acres each shall be taken up every year. The area seletced will be roughly demarcated. These should generally be formed below 4000' elevation. The centres selected should not be situated in areas falling under the fuel working circle. Dibbling of Sandal seeds will be done near good immunizing heat hoast plants. No specific espacement is prescribed but dibbling should be done 12' × 12'. It is needless to state that this work should be taken up only in open jungles. Dibbling of seeds should be carried out just before the monsoon and the progress of germination watched. The work will be done by the concerned beat subordinates without incurring any expenditure and the District Forest Officer and the Range Officer shall make it a point to inspect these localities and check up the progress of this work as frequently as possible. The plots selected and regenerated with sandal shall be serially numbered from 1 to 15 for each beat to indicate the areas covered during the currency of this working plan. It is expected that with sincere attempts on the part of the subordinate and frequent inspection by the superior officers this work should be a success in this tract which is the home of sandal.

105. *Localities where sandal propagations centres are suggested.*—Sandal propagation was attempted in the localities mentioned below for five years in 1942 under the prescriptions of the previous working plan of this division. This work was discontinued from 1947–48 onwards under the orders contained in Chief Conservator of Forests proceedings miscellaneous number 93/53, dated 7th February 1953 as the efforts were reported to be failure. Even at present these localities contained little or no sandal at all. It is prescribed that sandal propagation as suggested earlier and as suggested in the various silvicultural notes on artificial regeneration of sandal be taken up in the same localities, the list of which is given below :—

Serial number and name of the beat.	*Locality.*	*Number of S.I. sheet.*
(1)	(2)	(3)
1 Thattakerai	1 Near Holakerai	30
	2 Near Mesalkerai	30
	3 Karanabetta	30
	4 Gotahalla pen	30
	5 Along Nilkalhalla	30
2 Thamarakerai	1 Near Oonivi Bari (along the road)	37
	2 Near Nalkarai (on the Ondunai road).	37
3 Origaikandy	1 Addikandipallam (Mouth) ..	25
	2 Six furlongs up its bank	25
4 Settipatti	1 Nadukkavalchatham	25
	2 Surakkaimaduvu	25
	3 Valaikombai	26
	4 Marianathampatti	26
	5 Mariammanpatti	31
	6 Mulamadugu	31
5 Ullurthandi	1 Donamadugupatti	31

106. *Special report on the work.*—After five years of the work a special report will be submitted to the Chief Conservator of Forests and on his orders will depend the continuance or otherwise of the scheme.

SECTION 7—OTHER REGULATIONS.

107. *Retail sale of Sandal billets.*—The retail sale of sandal billets for bona fide domestic use will be continued as hitherto, but the stock of the billets with the head clerk of the District Forest Officer need not be more than what will be necessary for sale in a year. The existing practice will be followed in the future also, regarding the obtaining the stock of billets the fixing of their prices, and the maintenance of cognate accounts.

108. *Fire protection.*—No special methods of fire protection are prescribed for this working circle.

109. *Grazing.*—Propagation centres and sandal kumri regeneration areas will be closed to grazing for at least a period of five years.

110. *Control.*—Control forms will be maintained as given in appendix.

CHAPTER III—WORKING PLAN FOR THE VILLAGE SANDAL WORKING CIRCLE.

SECTION 1—GENERAL CONSTITUTION OF THE WORKING CIRCLE.

111. *Constitution.*—The Village Sandal Working Circle includes all villagers in this range which contain in their unreserves and patta fields sufficient number of Sandal trees over which the Government has some right, to make regular exploitation worthwhile. The rights of the Government over the sandal growing in patta fields are dealt with in a later paragraph.

112. *List of villages excluded from the village sandal Working Circle.*—The village of Ullurthanda is excluded from this Working Circle as it contains very few sandal trees to which the Government have any claim and hence does not lend itself to economic and convenient working.

113. *Sandal in patta lands.*—The position regarding the right of the State over the Sandal growing on patta lands in this tract varies with the date of assignment and falls under the categories as enumerated below :—

(1) Lands assigned prior to Board's Proceedings No. 14, Forests, dated 19th January 1907. On such lands the Government have no clear general title to the Sandal trees.

(2) Land assigned in Kollegal taluk, since the issue of the Board Proceedings referred to above up to the date of G.O. No .1290, Revenue, dated 16th June 1928. On such lands, according to the expert legal opinion of the Advocate-General, Madras, the trees which existed at the time of assignment are the property of the State even if the terms of the proceedings of the Board have not been carried out in any or all particulars but trees which have come in since the assignment must be held to be properly of the pattadars.

(3) On lands assigned after the issue of G.O. No. 1920, Revenue, dated 16th June 1928, all the existing and future growth of sandal are the property of the State.

114. *Area.*—The approximate area of the Working Circle is 14,500.07 acres.

115. *Division into Felling Series.*—As the subordinates of the division are well conversant with the present limits of the series and coupes, the 4 series as existing will be continued as such. The following statement gives the details of the different felling series of this working circle :—

Statement of Village Sandal Felling Series, Coimbatore North Division.

BARGUR RANGE.

Serial number and name of felling series.	*Village and hamlets included in the felling series.*	*Limits of the felling series.*	*Total number of survey fields.*	*Total area.* ACS.	*Number of fields containing Sandal.*	*Area of the fields containing Sandal.* ACS.
1 Koilnatham ..	Part of Bargur village consisting of Dolli, Honneri, Thamarahatti Alani, Koilnatham, Periasengulam, Chinnasengulam, Kongadai and Guttayur hamlets.	Dolli, Kolanattam and Guttayur enclosures.	228*	4,732·98	98	4,170·50
2 Devarmalai ..	Part of Bargur village consisting of Tettakerai, Usimalai, Anjipalayam, Bejjalpalayam, Thurusanpalayam, Bargur, Saondapur, Devaramalai, Elasipalayam, Vellimalai, Bejjalatty and Matam hamlets.	Bargur, Sondapur and Devaramalai enclosures.	657*	5,599·06	383	4,629·34
3 Tamarakerai ..	Part of Bargur village consisting of Tamarakerai, Talakerai, Eratty and Ondanai hamlets.	Tamarakerai, Talakerai and Eratty enclosures.	301*	2,745·42	219	2,511·88
4 Palamalai ..	Ramanpatti the southern and eastern portion of the enclosure and the whole of the Thimmanpatti, Periakulam and Kadukaipatti.	....	115	1,422·61	115	1,422·61
		Total ..	1,301	14,500·07	875	12,734·33

* Forty-six fields of 339·60 acres are not included in the felling series as they do not contain sandal trees.

SECTION 2—METHOD OF TREATMENT.

116. *Objects of managements.*—The main objects of managemeit of this working circle are :—

(*a*) to exploit Sandal trees which belong to Government in both the unreserves and patta lands.

(*b*) to take effective steps to protect Government Sandal trees, and

(*c*) to purchase outright all privately owned sandal trees, both green and dead, for immediate extraction, purely as a measure of protecting the State's property of Sandal wood.

117. *Method of treatment.*—(1) Normally sandal trees belonging to Government occurring either on patta fields or in unreserves will be extracted only when they are dead. Under special circumstances green sandal trees belonging to the Government occurring in patta fields may also be extracted.

(2) Privately owned sandal trees may however be extracted at pattadar's option at suitable rates fixed by the department.

118. *Treatment of Sandal villages not included in the working circle.*—In such villages that have been excluded from the working circle, if it be noticed at a later stage that the incidence of sandal has increased in the unreserves and the patta fields assigned after June 1928 the District Forest Officer shall consider the possibilities of exploiting them in a systematic fashion. It is felt however that such a position will not arise, as the general public are not very much inclined to foster sandal regeneration on their fields and almost the entire unreserves of these villages are being occupied for some purpose or other.

119. *Identification of Government Trees.*—As discussed earlier, in the case of lands assigned between 1907 and 1928 the sandal trees which existed at the time of assignment belong to the Government. In case of lands assigned prior to 1907 the Government obtains a proprietory right over the sandal on such fields only if the pattadars had executed the valid agreement transferring the rights of ownership under certain conditions to the State.

For ascertaining, which trees existed at the time of assignment the following procedure shall be adopted. Assuming an average annual girth increment of 0–5″, if the period in years that has elapsed between the date of assignment and the date of extraction is multiplied by 0 5″ the present breast height of the tree which was of 0″ breast height at the date of assignment (trees which had germinated theoretically on the date of assignment) is known. So sandal trees of this girth and above shall be presumed to have stood on the field at the time of assignment. In case of fields assigned before 1907 the date of assignment is rarely known and hence the date of agreement may be taken. In some cases, the actual date of assignment is not known even though the fields are known to have been assigned between 1907 and 1928. In such cases, the mid-year of the period, namely, 1918 shall be presumed to be the year of assignment. It is worthy of note here that the average annual girth increment of ·5″ adopted has been accepted by the High Court of Judicature, Madras in a case tried by them on certain disputes relating to the adjoining Coimbatore North Division.

120. *Acquisition of Private Sandal.*—It is a lamentable fact that private sandalwood traders who had taken the right for extraction of privately owned sandal trees from the pattadars, have often been found to have made extensive and organized illicit raids into the reserves and removed Government sandal trees, in addition to removing sandal from patta over which the Government have rights. Hence it is necessary to prevent wholly or at least minimise private trade in sandal. It is only too well-known that the prices offered to the pattadar by the private dealer is ridiculously low compared to what would have been paid had those trees been purchased by the Government. The main reason why the pattadar prefers to sell the trees to the private dealer is, because he gets the money in advance in such cases, whereas in case of purchase by Government the payment of value is often very much delayed, delays of over two to three years being not uncommon. The Government have obtained the rights to exploit privately owned sandal trees over a great part of this tract. It is absolutely necessary that an all out effort be made to obtain the right over all privately owned sandal trees in this tract, by getting the pattadars to execute necessary agreements with the Government. While acquiring the right, the department will reserve the right to exploit the trees when it wishes and also stipulate that the payment will be made at a settled formula at rates to be fixed from time to time by the Chief Conservator of Forests. When the ownership of sandal trees in a patta field lies divided between the State and the pattadar, the pattadar should be made to accept the identification of the Government Sandal trees identified on the basis of the average annual increment method as mentioned in the previous paragraph. All

agreements entered into in this connexion shall be registered documents. The standard forms as prescribed by the Government and used now shall be continued to be used. While making efforts to acquire the privately owned sandal trees in future, the wishes of the pattadars should be honoured and given due consideration. If he feels that the occurrence of sandal in his pattas is more nuisance to him then an advantage and if he desires that all such sandal shall be extracted, it is better to extract all such sandal, green or dead, even though it may upset the principles of sustained yield and systematic working. Removal of green trees shall be made only with the prior approval of the Conservator of Forests. It may appear that by removing the green sandal trees the Government may lose a little revenue compared to what it would get if these trees are extracted after their full growth and natural death. But it is worth it because we would be effectively combating the competition from the private dealer. Further if by our promptness in making the payments the pattadars are convinced that they get a better return by selling the trees to the Government, many a pattadars would like to have as much of sandal on his fields as possible so that he will get a sustained income. An honest and sincere attempt and a sympathetic approach to the subject by the District Forest Officer will be very useful in achieving this end.

121. *Payment for Patta Sandal trees.*—Three kinds of payments will arise under the prescriptions of the Working Plan, namely, (1) Payments to pattadars of the value of sandal trees purchased by Government, (2) payments to pattadars for protecting Government trees till they are extracted. In the second case two instances, will occur, (*a*) when dead trees are extracted, and (*b*) when green trees are extracted. Where Government buy privately owned sandal trees the intention is to pay the owners the full market value of the wood, less overhead, extraction and transport charges and as well as a reduction on account of wastage due to dryage and final cleaning. In the case of green sandal trees the dryage will certainly be more than in the case of dead sandal and this fact will no doubt be taken into account.

For protecting Government sandal trees till they are exploited the pattadar will be paid at the rate of rupee one per quarter of rough cleaned wood whether there is any agreement or not. This rate will apply only to dead sandal wood extracted. In the case of extraction of green sandal trees, normally, the pattadars should not be paid any compensation, since the trees are extracted only at his request, and further Government will lose revenue by extracting green trees, which if allowed to remain till they die, will produce much more heartwood. However, some payment is considered desirable and a rate of Re. 0-12-0 per quarter of rough cleaned sandalwood is suggested.

122. *Felling cycle.*—The present felling cycle of three years will continue.

123. *Regulation of working.*—Working will be regulated by area. One coupe in each series shall be worked every year.

124. *Calculation of the possibility.*—The annual possibility has been calculated on the average of the last twelve years. This comes to 22½ tons per annum.

SECTION 3—METHOD OF EXECUTING THE FELLINGS.

125. *Extraction Regulations.*—The following regulations will be observed while extracting sandal in the Village Sandal Working Circle :—

(*a*) Extraction will be confined only to dead trees in the unreserves included in the working circle.

(*b*) In the case of patta fields normally only dead sandal trees shall be extracted but in exceptional cases at the request of the pattadars green sandal trees may also be extracted with the prior approval of the Conservator of Forests. Such extraction of green trees shall be restricted to the minimum possible.

(*c*) Extraction will be confined to the coupes of the year.

(*d*) Units of enumeration and extraction in patta lands shall be a surveyed field. If more than one pattadar are in the possession of a single field the subdivision shall form the units of working. Block of unreserves containing several survey fields will be treated as one unit. The numbering of the trees in a coupe will be done serially.

(*e*) Register of new assignments will be continued to be maintained for each coupe.

(*f*) In the year previous to the year of felling a coupe the District Forest Officer shall send a clarified list of all sandal baring patta fields included in it to the Range Officer containing the following information :—

(i) Survey numbers of newly assigned patta fields since the last working of that coupe.

(ii) The survey numbers of the fields, in which the trees belong partly to the Government and partly to the pattadar. It should also be stated whether the pattadar has agreed to sell his trees to the Government or not.

(iii) Survey numbers of fields in which all the trees have been sold by the pattadar under agreement to the Government.

(iv) The survey number of fields in which the trees do not belong to the Government.

(v) Survey numbers and details of green trees to be extracted in the year.

(*g*) Extractions will be governed by the sandal wood rules in force in the State from time to time.

126. *Disbursement of Patta Sandal payments.*—All payments arising out of the exploitation of patta sandal trees shall be paid within the time limits prescribed in paragraph 121 by the District Forest Officer or his Gazetted Assistant. Remittances when convenient may be made through post offices.

SECTION 4—TABULAR STATEMENT OF FELLINGS TO BE MADE.

127. The following statement shows the sequence in which the coupes will be worked during the currency of this working plan.

Coupe number.	Years of working.
I.	1957-58, 1960-61, 1963-64, 1966-67 and 1969-70.
II.	1958-59, 1961-62, 1964-65, 1967-68 and 1970-71.
III.	1959-60, 1962-63, 1965-66, 1968-69 and 1971-72.

Tabular statement of coupes in the Village Sandal Working Circle, Kollegal division.

BARGUR RANGE.

Serial number and name of felling series. (1)	*Coupe Number.* (2)	*Village and hamlets included in the coupe.* (3)	*Survey fields included in the coupe.* (4)	*Total Number of survey fields.* (5)	*Total area of survey fields.* (6)	*Number of fields containing sandal.* (7)	*Area of fields containing sandal.* (8)
					ACRES.	NOS.	ACRES.
1 **Koilnatham**	1	Part of Bargur village consisting of Dolli, Hanneri, Tamarahathi, Alanai, Koilnatham, Peria Sengulam and Chinna Sengulam.	195 part, 512 to 543, 612 to 692 part. 694 to 727, 875 to 877 and 1,030 to 1,035.	142	2,527·02	45	2,173·25
	II	Part of Bargur village consisting of Kongadai (part).	693 part. 728 part, 728 part and 1,038.	3	1,188·19	2	1,186·91
	III	Part of Bargur village consisting of Kongadai (part) Guttayur.	693 part, 728 part, 729 to 771, 1,036, 1,037 and 1 to 36.	83	1,017·47	51	810·34
2 **Devarmalai**	I	Part of Bargur village consisting of Tattakerai, Usimalai, Anjipalaiyam, Tarusampalaiyam, Bejjatpalaiyam, Bargur and Sundapur.	1 to 194, 195 part, 196, 197 part, 198 to 225, 772 to 783, 787 to 874, 878 to 888, 930 to 944 and 1,039 to 1,040.	390	2,456·06	184	1,704·43
	II	Part of Bargur village consisting of Devarmalai and Elasipalaiyam.	197 part, 226 to 277, 278 part, 279 to 301, 784, 894 to 900, 945 to 960, 969 to 985 and B 10–1.	133	1,317·77	104	1,235·19
	III	Part of Bargur village consisting of Vellimalai, Bejjalatty and Matam.	278 part, 302 to 385, 785, 786, 901 to 968, 986 to 1,006 and 1,041 to 1,044.	134	1,825·23	95	1,689·72
3 **Tamarakerai**	I	Part of Bargur village consisting of Eratty.	197 part, 197–1, 386 to 457, 903 to 922, 924 to 927, 929 and 1,007 to 1,014.	114	1,210·70	87	1,138·24
	II	Part of Bargur village consisting of Tamrakerai.	195 part, 197 part, 504 to 531, 544 to 611, 889 to 893 and 1,025 to 1,029.	110	661·71	74	535·68
	III	Part of Bargur village consisting of Ondanai.	197 part, 458 to 503, 901, 901, 923, 928 and 1,015 to 1,024.	77	873·01	58	837·96
4 **Palamalai**	I	Timmanpatti, Periyakulam, Ramanpatti.	13 part and 16 part, 8 part and 3 part, 104, 164, 173 to 219, 230, 242 (part), 243 and 244.	..	..	57	550·80
	II	Ramanpatti (part).	140 to 149 and 158 to 172	..	..	24	197·40
	III	Ramanpatti (part). Kadukkaipatti.	69 to 71, 113, 124 to 139, 147, 150 to 158. 1, 4 and 10 }	..	..	33	674·41

SECTION 5—SUBSIDIARY REGULATIONS.

128. It is suggested that the District Forest Officer and his subordinates make it a point to encourage the people of the locality to preserve the sandal in their localities by doing intensive propaganda during their tours about the possibility of sandal growing as a permanent source of sustained income to them. The land holders should be encouraged to raise sandal seedlings and to protect them at least on the bunds of their fields and in the waste lands. The District Forest Officer should keep in personal touch with the villagers to achieve this.

129. *Control.* The District Forest Officer shall maintain the control books as prescribed (vide Appendix III) copies of which have been handed over to him.

CHAPTER IV—WORKING PLAN FOR THE FUEL WORKING CIRCLE.

SECTION 1—GENERAL CONSTITUTION OF THE WORKING CIRCLE.

130. *Constitution.*—The fuel working circle comprises of the more accessible areas of the tract, that have been worked for fuel in the past under the several working plans and schemes that were in force and areas likely to be worked for fuel. Steep country has been avoided to the extent possible. Advantage has been taken of the improved means of communication and transport that have set in since the compilation of the previous working plan and fresh areas have been included to meet the increased fuel requirements of the population in places like Mettur Dam and Bhavani.

131. *Distribution into felling series.*—This working circle comprises of six felling series aggregating to 12,629 acres. The fuel from these series will be sufficient to meet a good proportion of the demands of towns like Bhavani and Mettur Dam and also the villages of the locality. It is hoped that opening up of such large extents of forests for fuel working will reduce the illicit removals of fuel by the people around Mettur Dam to a large extent.

Statement of felling series.

Serial number and name of felling series.	*Reserve in which the felling series are situated.*	*Area.*	*Markets.*
(1)	(2)	(3)	(4)
1 Guruvareddiyur Felling Series	Palamalai	1,384	Bhavani and Erode.
2 Kumarayyanur Felling Series	North Burgur	1,766·25	Do.
3 Ajjappankoil Felling Series	Do.	1,362·7	Do.
4 Ullurthanda East Felling Series	North Burgur and Pichapalanmalai Reserved Forest.	1,686	Mettur Dam.
5 Ullurthanda West Felling Series	North Burgur Reserved Forest.	3,197	Do.
6 Palar Felling Series	Do.	3,233	Do.

132. *Character of vegetation.*—These forests belong to the South Indian dry deciduous type mostly, with the composition, density and quality varying from place to place, depending on several factors such as the soil conditions, rainfall and the intensity of exploitation, illicit or otherwise. The species commonly met with in these forests are :—

Acacia sundra	*Acacia leucophloes*
Albizia amara	*Anogeissus latifolia*
Atlantia monophylla	*Boswellia serata*
Canthium didymum	*Chlyroxolon swietenia*
Dichrosdyechys cinerea	*Diospyros montana*
Erythroxylon monogynum	*Cyrocarpus jacquini*
Cieotia rottleriformis	*Grewia hirsuta*
Hardwickia binata	*Limonia acidissima*
Premmna species	*Protium caudatum*
Strychnos species	*Sapindus emarginatus*
Wrightia tinctoria	*Zizyphus* species.

SECTION 2—METHOD OF TREATMENT.

133. *Method of treatment.*—The method of treatment will be the simple coppice system, as hitherto. The contractor shall not be required to fell the growth he does not want to remove. Sandal will be reserved and shall not be felled by the contractor. The District Forest Officer is also at liberty to reserve any trees yielding Minor Forest Produce and exclude such trees from felling. No tending is prescribed, as any general prescription for cutting useless softwooded species, throny climbers, etc., is considered likely to lead to wasteful and unnecessary expenditure without actually being directly beneficial to the vegetative growth.

134. *Rotation.*—The existing rotation of forty years will continue to be in force.

135. *Regulation of Working.*—The working will be regulated by area. The area which will be worked during the currency of this working plan have been shown on the working plan maps. The sub compartment in each series have been formed of more or less equal extent.

SECTION 3—METHODS OF EXECUTING THE FELLINGS.

136. *Sale of sub-compartment.*—One sub-compartment in each series will be sold each year.

137. *Demarcation of sub-compartments.*—The sub-compartment to be worked in each year, in each of the series during the period of this working plan have been marked in the working-maps the area to be worked, each year shall be surveyed, Plan demarcated in the year previous to the year of working. In cases where the boundary of the sub-compartment is not a natural feature, lines 6 feet in width shall be cut for purposes of demarcation. All the sandal, pungam, neem, tamarind and kadukkai trees shall be enumerated and serially numbered and the list submitted to the District Forest Officer along with the sketch of the coupe.

138. *Period of lease and agency of exploitation.*—The coupe shall be sold in public auction every year sufficiently early to hand it over to the respective lessees by the 1st of April. A voidah of 12 months shall be allowed for each sub-compartment. The sub-compartments left unsold in the general sales but sold subsequently by auction or by tender shall be leased only for the period ending 31st of March.

139. *Arrears of coupes.*—Portions of coupes unworked in any year may also be sold subsequently in the following year, if there is demand. Arrear coupes (coupes which were not worked at all) may also be sold in the following year, after the coupes of the year have been sold, if there is demand.

140. *Felling and extraction rules.*—(1) The sub-compartment shall be felled strip by strip which shall be clearly demarcated on the ground by lines 3 feet wide. There shall be four strips in each sub-compartment. The contractor may commence work in the next strip only after the Range Officer has personally inspected and satisfied himself that the work in the previous one has been satisfactorily completed. Each strip should be felled and vacated within three months.

(2) No sandal, pungam, tamarind, or kadukkai trees shall be permitted to be felled by the lessee. The District Forest Officer shall inspect these coupes before they are offered for sale and if he is satisfied that neem trees do not occur in these sub-compartments in gregarious patches, he shall report this fact for each unit to the conservator of forests and obtain his permission for felling and removal of such neem trees. If, however, the neem trees are found to occur in large numbers in gregarious patches these trees shall not be felled by the lessee. It is important, however, that the lessee must be informed at the time of the sale whether the neem trees in a particular sub-compartment shall be felled or not The entire sub-compartment should be taken as the unit for any decision on this issue.

(3) Evergreen trees of large size such as *Terminalia arjuna* and *Mangifera indica* standing on the stream banks also shall be enumerated and marked and these trees also shall not be felled. But dead, dying and over-mature trees among them need not be marked for retention and they may be permitted to be felled by the contractor.

(4) The lessee shall fell any tree he wishes to remove except those specified in rules (2) and (3) above. He shall not be bound to cut and remove any growth he does not wish to.

(5) The stumps of trees felled must be as low as possible and should not ordinarily exceed 12" in height for purposes of effective coppicing but no such stump need be trimmed.

(6) The lessee shall be permitted to construct extraction paths in any part of the coupe irrespective of the strip in which he may be working.

(7) The lessee shall stack all cutwood in the coupe and shall not remove the same unless it is inspected by a Forest Officer not below the rank of a Forester. The size of the stacks shall be fixed by the Direct Forest Officers. The Officer inspecting such stacks should submit monthly accounts of the number of stacks formed and the number of stacks removed by the lessee, to the Range Officer, by the 10th of the subsequent month.

(8) If the lessee wishes to remove timber of poles from his coupe he may do so, but he should not remove them from the stump site, till they have been checked and hammer marked by a competent forest officer.

SECTION 4—TABULAR STATEMENT OF FELLING.

141. *Statements.*—Statement showing the areas and the sequence of sub-compartments to be worked during the currency of this working plan is given below :—

Bargur Range fuel series.

Serial number and year of working.	*Kumarayyanur F.S.*		*Guruvareddiyur F.S.*		*Ajjakkankoil F.S.*	
	Sub-compartment.	*Area.*	*Sub-compartment.*	*Area.*	*Sub-compartment.*	*Area.*
		AC.		AC.		AC.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 1957–58	4 b	60	1 a	32·4	3 d	40
2 1958–59	4 c	47	1 b	31·6	3 e	29
3 1959–60	4 d	37	1 c	33·6	3 f	45
4 1960–61	4 e	42	1 d	32·0	3 g	39
5 1961–62	5 a	42	1 c	31·2	3 h	26
6 1962–63	5 b	44	1 b	39·2	4 a	33
7 1963–64	5 c	36	2 a	30·0	4 b	33
8 1964–65	5 d	38	2 b	34·0	4 c	39
9 1965–66	5 e	37	2 c	32·0	4 d	26
10 1966–67	6 a	31	2 d	36·0	4 e	37
11 1967–68	6 b	36	2 e	39·6	5 a	26
12 1968–69	6 c	32	2 f	40·0	5 b	44
13 1969–70	6 d	33	3 a	35·6	5 c	38
14 1970–71	6 e	26	3 b	36·0	5 d	39
15 1971–72	7 a	41	3 c	34·4	5 e	38

Serial number and year of working.	*Ullurthanda East F.S.*		*Ullurthanda West F.S.*		*Palar F.S.*	
	Sub-compartment.	*Area.*	*Sub-compartment.*	*Area.*	*Sub-compartment.*	*Area.*
		AC.		AC.		AC.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 1957–58	4 a	42	1 a	84	1 a	82
2 1958–59	4 b	39	1 b	80	1 b	82
3 1959–60	4 c	40	1 c	87	1 c	72
4 1960–61	4 d	33	1 d	78	1 d	78
5 1961–62	4 e	38	1 e	76	1 e	72
6 1962–63	5 a	43	1 f	78	1 f	72
7 1963–64	5 b	54	2 a	84	2 a	76
8 1964–65	5 c	34	2 b	80	2 b	84
9 1965–66	5 d	44	2 c	87	2 c	87
10 1966–67	5 c	42	2 d	86	2 d	87
11 1967–68	6 a	39	2 e	85	2 e	84
12 1968–69	6 b	29	2 f	81	2 f	85
13 1969–70	6 c	55	3 a	87	3 a	80
14 1970–71	6 d	41	3 b	84	3 b	80
15 1971–72	6 e	36	3 c	87	3 c	86

SECTION 5—SUBSIDIARY REGULATIONS.

142. *Artificial regeneration.*—No artificial regeneration will ordinarily be taken up in the fuel working circle. The District Forest Officer shall however, take up artificial regeneration over such areas as and when special schemes of afforesting dry fuel forests come up into existence.

143. *Demarcation of compartment and sub-compartments.*—The entire compartment to be worked shall be demarcated before working the first sub-compartment in it. Lines 10 feet wide should be cut to indicate compartment boundaries where natural features do not form the limits. Stones should be planted at salient points all round. The limits of the sub-compartments should also be marked off by cut lines 6 feet wide where they are not bounded by natural features or compartment boundaries.

144. *Grazing.*—Fuel coupes will be closed to grazing for a period of ten years including the year of felling. In the rest of the fuel working circle grazing will be permitted under the provisions of the grazing working circle. All closed areas should be clearly distinguished on the ground by having red sign boards intimating such closure and also notified in the usual way in the Gazette.

145. *Access to grazing grounds beyond closed coupes.*—Easy access to grazing grounds beyond such closed areas should be given. If coupe lines are unsuitable, ways in the form of closed and fenced corridors through the closed area itself should be given, even though it means incurring some expenditure.

146. *Fire protection.*—No special means of fire protection are prescribed for the fuel working circle.

147. *Supply of agricultural implements, etc.*—The lessee shall be required to sell to the ryots agricultural implements, small timber, fuel and fencing material from his coupe at rates fixed by the District Forest Officer and under the conditions of the agreement to be executed by the lessee with the District Forest Officer. To this end, it is suggested that the contractor shall be required to have a specified minimum quantity of such agricultural implements that are necessary during the particular seasons and that the ryots be kept informed of this provision.

148. *Charcoal manufacture.*—Charcoal manufacture must not ordinarily be permitted inside the limits of the Reserved Forests.

149. *Record of statistics.*—The lessee will furnish not later than the 10th of each month, statements showing the removals effected by him in the previous month of fire-wood timber and other produce from his coupe. He should also surrender the counterfoils of all permits used by him along with this statement.

150. *Control.*—Control books shall be maintained by the District Forest Officer, in the form prescribed and supplied to him, copies of which can be seen in Appendix (11b) of this working plan. The extent of coupes worked shall also be posted in the control maps in an effective manner to ensure that the limits of the coupes worked do not deviate much from those marked by the Working Plan unit.

CHAPTER V—WORKING PLAN FOR THE SHANAR POLLARD WORKING CIRCLE.

SECTION 1—GENERAL CONSTITUTION OF THE WORKING CIRCLE AND CHARACTER OF THE VEGETATION.

151. *General constitution.*—This working Circle is specially constituted to meet the large seasonal demand for branch-wood fuel required for the manufacture of jaggery, by the shanars living in the villages of Ramachipalayam, Marappakavundanur, Atkalipalayam, etc., of Bhavani taluk and Puliampatti, Kuruchi, Kurumbapalayam, Thannithasanur, etc., of Tiruchengode taluk. The tapping season is from January to June and is at its maximum in March.

Even at present, most of these shanars of this locality are reported to be removing the branch-wood fuel illicitly for this purpose, from the eastern slopes of the Palamalais of Neringipet. The shanars of adjacent villages are enjoying this concession of removal of branch-wood-fuel from the forests of the adjoining Bhavani Range. Hence in order to extend this facility to the shanars of these villages referred to and also to meet their requirements from a legitimate source, this working circle is constituted.

152. *Character of vegetation.*—The coupe of this working circle are laid out in the worked areas of the Palamalai Fuel Series. These areas have been subjected to heavy illicit fellings by the public in the recent past and hence are not capable of supplying fuel of any good quantity or quality when these come up again for fuel working. Hence, these areas have been excluded from the Fuel Working Circle under the provisions of this working plan. The forest is of an open, shunted, scrub type and consists mainly of *Acacia sundra, Acacia leucophloea, Dichrostachys cinera, Gyrocarpus jacguirni Randia species, and Zizyphus species.* Very few trees of any good height are observed in this locality. The general growth is very low in height and poor in size. These areas however, are capable of meeting the requirements of the shanars in the form of branch-wood and small twigs for fuel-maintain a sustained yield of these produce without being detrimental to the essential principles of forest management.

153. *Distribution of felling series.*—On an average about 70 shanars from these villages can be expected to come for fuel every day for about 20 days in the month for six months. Working on this and on the assumption that a head load will be two quarters (56 lb.), in weight, the average annual requirement will be about 183 tons.

The area is formed into only one felling series of 1167 acres in extent with the annual coupes capable of yielding of about 200 tons of branch-wood per annum. The series will be known as the Palamalai Felling Series.

SECTION 2—METHOD OF TREATMENT.

154. *System.*—Lopping (without damaging the leading shoot or shoots of the tree) will be the mode of working. But very few trees exist in this area for lopping. Hence, in general, the simple coppice system will apply. Coppicing the shrubs and scrubs will be the mode of working.

155. *Felling cycle.*—The feeling cycle will be 12 years. It is felt that the period of 12 years should suffice to produce the type of material required by these shannars.

156. *Regulation of working.*—The working will be regulated by area. Twelve coupes of approximately equal extent have been formed and these have been shown on the working plan maps.

SECTION 3—METHOD OF EXECUTING THE FELLINGS.

157. *Demarcation of coupes.*—One coupe will be worked every year. The coupe to be worked will be demarcated by cut lines 6' wide, in the preceeding November.

158. *Period of Working and Agency of Exploitation.*—The period of working will be for six months from the first of January to the thirtieth of June every year. Felling will be permitted on purchase of permits issued by a forest officer not below the rank of a forester, at the rate of two annas per head-load. It may be necessary to depute a forester solely for this purpose. If however, local jaggery producer's co-operative societies come forward to take up this working on lease all efforts must be made to encourage them and these coupes shall be leased out to them at negotiated rates. In as much as this type of working is new to this locality, it is recommended that working on issue of permits is resorted to at least for a period of three years to start with, to enable the department to have a correct assessment of the likely revenue and to have effective control over the fellings in the initial stages.

159. *Felling rules.*—In as much as the system of working is only lopping of branches and simple coppicing of shrubs and scrubs, no eleborate felling rules are necessary nor prescribed.

SECTION 4—TABULAR STATEMENT OF FEELING.

160. The following statement gives the particulars of coupes to be worked during the currency of this working plan.

Year.	Coupe number.	Area in acres.
1957–58	I	100
1958–59	II	95
1959–60	III	88
1960–61	IV	91
1961–62	V	98
1962–63	VI	102
1963–64	VII	100
1964–65	VIII	100
1965–66	IX	102
1966–67	X	98
1967–68	XI	97
1968–69	XII	96
1969–70	I	100
1970–71	II	95
1971–72	III	88

SECTION 5—SUBSIDIARY REGULATIONS.

161. *Demarcation of coupes.*—Stone slabs shall be planted at salient points along the boundary of the coupes, soon after felling in the coupe, is completed. These slabs should have the number of coupe the year of working and the number of the adjoining coupe inscribed on them.

162. *Grazing.*—The worked coupes shall be closed to grazing for a period of ten years including year of working. This will amount virtually to permanent closure of about 1,000 acres in this locality to grazing. But the demand for grazing is practically nil in this locality and hence no adverse situation need be anticipated.

163. *Record of statistics.*—Monthly accounts of removals should be maintained along with the revenue realised.

164. *Control.*—Control books shall be maintained by the District Forest Officer in the Form prescribed and copies of which have been supplied to him. [Vide Appendix (iii) of the Working Plan.]

CHAPTER VI—WORKING PLAN FOR THE BAMBOO WORKING CIRCLE.

SECTION I.—GENERAL CONSTITUTION AND DESCRIPTION.

165. *General.*—The Bamboo Working Circle comprises of all areas in this Range where bamboos are found in workable quantities. The bamboos occurring in this Range are exploited and mostly exported to far off places in Tiruchirappalli and Tanjore Districts. The local demand is not very much. Bamboos are used locally, mainly for building purposes. The bamboos of the Bargur Plateau are in keen demand for some intrinsic trade value they seem to possess. They are transported either to Andiyur or Mettur Dam by road from where they are sent by rail or road to the localities mentioned above.

Both *Bombusa arundinacea* and *Dendrocalamus strictus* are known to occur. The rainfall of the area being generally poor to moderate, it is not unusual to find that a good percentage of the stocking of bamboos in these localities is *Dendrocalamus strictus* and *Bambusa arundinacea* is mostly confined to the banks of streams at alll elevations. Extensive areas of *Bambusa arundinacea* are not found. The total area of this Working Circle is 136,884 acres.

166. *Bamboos for manufacture of paper pulp.*—The possibilities of utilisation of the bamboos occurring in the Ramapuram Range of the adjacent Kollegal Forest Division for supply to proposed Paper Pulp Factory at Mettur Dam, were studied and successive schemes prepared by Messrs. C. R. Ranganathan (1933) E. A. Lasrado (1937) and V. S. Krishnaswamy (1942). But no Paper Pulp Factory has so far materialised and hence the schemes mentioned were never tried. In view of the recent proposals which have revived the chances of location of a paper pulp factory at Mettur Dam, the bamboo areas of the Ramapuram Range of the Kollegal Division and the Bargur Range were stock-mapped and the stock assessed. As a result of this a quantity of 24,215 tons is anticipated as the annual possibility from the Ramapuram Range and 12,189 tons from the Bargur Range. List of coupe and series which will have to be reserved entirely for the supply of bamboos to this factory, if and when this scheme meterializes is given in a later paragraph.

167. *Statement of felling series.*—The working circle will be divided into fourteen series. The area and distribution of the different felling series are given in the statement below—

Description of the bamboo series.

BARGUR RANGE.

Total area.	*Effective area.*	*Description.*	*S.I. Sheet.*
(1)	(2)	(3)	(4)
ACS.	ACS.	1. *Bargur Series.*	
4,466	3,094	*North.*—From the junction of Basavana halla and Maniyar halla near Anaipadi and up the latter halla for about one mile; thence in an easterly direction up the spur passing through point 1890 for about one mile till it mee s a cross ridge; thence along the cross ridge in a north-easterly direction for about four furlongs to Boli guddali 3091; thence in a south easterly direction along the ridge to Cherioddu the north-western corner of Bargur enclosure. *East.*—The Western boundry of Bargur enclosure till the crossing of Athimalai-Gejjalpalayam footpath. *South.*—The abovesaid footpath in a South-westerly direction for about three furlongs till it meets a stream flowing westwards and joining Maniyar halla; thence along the said stream to Maniyar halla; thence down the Maniyar halla; for about three furlongs till a stream rising from near Kemparai oddu; thence along the water-shed between Maniyar halla and Basavana halla due west for about two furlongs to a hill top. *West.*—Thence in a northerly direction along the water-shed of the two streams (Maniyar halla and Basavana halla) to the starting point.	30 and 37.

Total area. (1) ACS.	*Effective area.* (2) ACS.	*Description.* (3)	*S.I. Sheet.* (4)
		2. *Bejjalatti Series.*	
12,509	3,972	*North.*—The common boundary of North Bargur and Pachapalamalai Reserved Forests from Nilvorai halla towards east up to 1050 (where Kurumbanur footpath cuts Reserved Forest Line). *East.*—Along the spur (from the said point 1050) up to 1890 and thence along the ridge of Yethulumalai up to point 10700 passing through points G.T. 2480, G. T. 2528, 2170 and 2130 on the saddle thence in a westerly direction along a stream till it joins with Thottipallam and thence along the said pallam till it meets the Forest Division boundary. *South.*—Thence along the common range boundary to the eastern boundary of Devarmalai enclosure near Anai podu G.T. 3443. *West.*—Thence along Devarmalai enclosure eastern boundary to Nilvorai halla and hence along the said halla to the st[illegible]ting point.	31 and 38.
		3. *Bodamalai Series.*	
26,612	7,719	*North.*—The river Palar from the confluence of Mortally halla to Th nnapatti pallam. *East.*—Thinnapatti pallam up to the junction of Kallahatti pallam. *South.*—Thence up the Kallahatti pallam up to point 1990; thence due west along a stream to the saddle at 2610 and on the other side of the saddle along a stream to Sipanahatti halla thence along the said halla to its junction with Sithavaripallam; thence up the halla to Bargur enclosure line; thence along the eastern and northern boundary of said enclosure to Cherioddu; thence in north-westerly direction along the ridge to Boli guddai G.T. 3691; thence in south-westerly direction along a cross ridge for about four furlongs; thence along a spur in a westerly direction down to Maniyar halla passing through point 1890. *West.*—Thence down the Maniyar halla to Palar and thence down the said river to the staring point.	25, 26, 30 and 31.
		4. *Devarmalai Series.*	
4,178	3,218	*North.*—The paduguttati halla from its junction with Dodda halla near point 1690 up to Paduguttati Doddi; thence along a stream in an easterly direction to the saddle; thence down the saddle on the opposite direction to Ullurpallam; thence down the pallam to the junction of Nilvarai pallam. *East.*—Thence up the Nilvarai pallam to the crossing of Devaralai enclosure boundary line. *South.*—Thence along the eastern and northern boundary of the said enclosure up to Bailltha Anapodu where the common boundary of Thamarakerai and North Bargur reserves meet; thence along the said boundary line in a westerly direction to Dodda halla. *West.*—Thence along Dodda halla to the starting point.	30, 31 and 38.
		5. *Katrimalai Series.*	
17,412	3,558	Bamboo area, bounded by Palar and Stanley Reservoir in the north the eastern boundary line of North Bargur reserve in the east; Thinnapatti pallam-Ullurthanda road in the South and Thinnapatti pallam in the West.	25, 26 and [illegible]
		6. *Koilnattam Series.*	
		BLOCK I.	
2,940	780	*North.*—The Northern boundary of Koilnatham enclosure and Maniyar halla. *East.*—Maniyar halla to its junction with the footpath from Anthiyur to Kongadai. *South.*—The said footpath of Koilnatham enclosure eastern boundary. *West.*—The said enclosure boundary to the starting point on northern boundary.	
		BLOCK II.	
7,043	1,750	*North.*—The southern and eastern boundaries of Guttayur enclosure and the footpath from Guttayur to Sengulam. *East.*—The Western boundary of Koilnatham enclosure to the Palar stream forming the common Range boundary. *South.*—The said Palar stream. *West.*—The Palar river to Guttayur enclosure.	36, 44 and 45.

Total area. (1) ACS.	*Effection area.* (2) ACS.	*Description.* (3)	*S.I. Sheet.* (4)
		7. *Koppathukombai Series.*	
14,9485,502	..	*North.*—Starting from the crossing of Ugiam and Anaipadi footpath at Palar and along the said footpath to the saddle 2290; thence in northerly direction along the water-shed between Palar and Basavana halla to Karadiora passing through Iralakal betta G. T. 2894, thence in a westerly direction for about six furlongs to a steam point 1510; thence down the stream till it meets Maniyar halla. *East.*—Thence up the said halla to hasavana halla junction; thence in a southerly direction along the ridge to Kemparai oddu passing through 1720, 2640, 3410 Maribarai, 2959, 3.470 and 3870. *South.*—Along the said enclosure northern boundary to Tekkal oddu; thence along the said enclosure Western boundary to the footpath from Sengulam to Guttayur and the said footpath to Guttayur enclosure line. *West.*—The eastern and northern boundaries of Guttayur enclosure and the Palar river to its meeting with Anaipadi footpath, the starting point.	29, 30, 36 and 37
		8. *Sondapur Series.*	
3,309	2,087	*North.*—Bargur Ullurthanda footpath via Kurubetta from the Bargur enclosure line to Dodda halla. *East.*—Thence up the Dodda halla till it meets the common boundary of Thammarakorai and North Bargur reserves. *South.*—Thence along the said common boundary of Thammarakerai and Bargur reserves and thence along the eastern and northern boundary of Sondapur enclosure till it again meets another common boundery or Thamarakkerai and North Bargur Reserves; thence along the common boundary in westerly direction till it meets the Bargur ghat road. *West.*—Thence along the abovesaid ghat road in a northerly direction till it meets the Bargur enclosure line; thence along the eastern boundary of the said enclosure till it meets ullurthanda Bargur footpath.	30, 37
		9. *Thalakerai Series.*	
5,553	3;171	*North.*—Starting from Kembarai Oddu east along a stream to Maniyar halla; thence down the halla for about three furlongs till a stream rising from the Muthugatha Anai oddu and thence along a footpath to the Bargur enclosure line and thence to ghat road. *East.*—Bargur ghat road to Thammarakerai enclosure thence along the said enclosure north and west bounaries to the common division boundary. *South.*—The common range boundary to Gori oddu on Talakerai enclosure, the said enclosure north boundary and the common division boundary; south Bargur and Thamarakerai Reserved Forest to the eastern boundary of Koilaatham enclosure. *West.*—The said enclosure boundary north to Mullangi anai; a line west to Thekkan anai oddu; thence north along the ridge joining Sandakumari oddu, Karianboli and Kembarai oddu.	30, 37
		10. *Thamakerai Series.*	
6,366	3,706	*North.*—Thamarakerai Reserved Forest north boundary form Bargur ghat road; Sondapur enclosure north and east boundaries Thamarakerai Reserved Forest North boundary up to Devarmalai enclosure west boundary. *East.*—Devarmalai enclosure west boundary up to Kallivarai. *South.*—From Kalliverai the common range boundary to the Eratty enclosure east boundary; along the said enclosure east boundary, north and west boundaries to the common range boundary. *West.*—The said common range boundary to Thamarakerai enclosure the said enclosure eastern and northern boundaries and Bargur Ghat road to Thamarakerai Reserved Forest northern boundary.	30, 37 and 38
		11. *Thattakerai Series.*	
18,500	10,784	*North.*—From the junction of Sipanhatti halla and sitha-vari halla along the said former halla to its heaed and down to Kallhatti halla and thence along the said halla and Thinnapatti palam.	30 and 31

Total area. (1)	Effective area. (2)	Description. (3)	S. I. sheet (4)
	ACS.		
		II. Thattakarai Series—cont.	
		East.—Thence along Thinnapatti pallam to the crossing of Ullurthanda Valakombai Road; thence along the said road to Ullurthanda enclosure line; thence along the western boundary of the said enclosure up to the crossing of Ullur pallam.	
		South.—Thence along Ullur pallam up to point 1720 where a footpath crosses the stream; thence along the said footpath in a westerly direction to point 2660 on the saddle; thence on the other side of the saddle along a stream which meets Paduguttati halla at the Pudukuttadi doddi; thence along the said halla and down Dodda halla to point 1610 where a footpath (Ullurthanda Karumbetta) crosses; thence along the said footpath to Karumbetta; thence along Karumbetta. Bargur footpath to Bargur enclosure line.	
		West.—Thence along the eastern and nothern boundary of the said enclosure to Sithavari pallam; thence down the pallam to the starting point.	
		12. *Palamalai South Felling Series.*	
4,354	1,331	*North.*—By Periapallam–Periakulam enclosure line and Mayambutti–Kutangadu footpalh	
		Eas.—By Merinjipet Kutanadu footpath, south and west by Palamaalais; Reserved Forest boundary	
		13. *Palamulai East Felling Series.*	
6,462	1443	*North.*—By Jadaipandavam—Kombai—Mathikadu—Uthuklampatti Footpath.	
		East.—By Palamalai Resecved forest boundary.	
		South.—By Nakkalar (Korai pallam).	
		Wets.—By footpath to Patramadam and Ramampatti enclosure line and Thimmampatti–Kombai Kadu footpath through Paravallikadu	
		14. *Palamalai West Felling Series.*	
2,624	584	*North.*—By Pamanur—Thimmapatti foot path	
		East.—By Ramanpatti enclosure line.	
		South.—By stream 4000.	
		West.—By Palamalais reserve forest boundary.	

168. *Details regarding the series and coupes earmarked for reservation.*—The following series are earmarked for reservation for supply of raw materials to the Paper Pulp Factory if and when started at Mettur Dam. But these series will be continued to be sold to the public until such time when a paper pulp factory actually comes into being.

1	**Bargur series**	**Entire series.**
2	**Bejjalatty series**	Do.
3	**Bodhamalai series**	Do.
4	**Devarmalai series**	Do.
5	**Kathirimalai series**	Do.
6	**Koilnatham series**	Do.
7	**Sundapur series**	Do.
8	**Thalakarai series**	Do.
9	**Thamarakarai series**	Do.
10	**Thattakarai series**	Do.

SECTION 2—ANALYSIS OF THE CROP.

169. As has been mentioned earlier the bamboo areas in this Range was stock-mapped to assess the growing stock in the areas from which supply of bamboos and raw materials can be made if and when a Paper Pulp Factory is located at Mettur Dam. Sample plots covering 42 acres in the Range were enumerated to facilitate stock-mapping. The following statement gives the abstract of the estimated growing stock.

	Average per acre.				Stock as per stock mapping.				
Name of the unit. (1)	*Number of clumps.* (2)	*New culms (under one year).* (3)	*Old culms (over one year).* (4)	*Total.* (5)	*Dense area over 2,500 culms per acre.* (6)	*Sparse.* (7)	*Poor.* (8)	*Total extent.* (9)	*Available growing stock in tons.* (10)
									Tons.
Bargur Range	31	276	1,829	2,105	18,251·4	18,152·4	17,509·8	48913·6	109,449·5

SECTION 3—METHOD OF TREATMENT.

170. Bamboos will continue to be extracted under the same system as at present. Sufficient number of old culms shall be left in a clump and extraction will be done without damaging the rhizome. Detailed prescriptions are laid out in the next section.

SECTION 4.—METHOD OF EXECUTING THE FELLINGS.

171. *Felling Cycle.*—The existing felling cycle, which is three years, will be continued to be followed. Thus each felling series is divided into three coupes, each of which is approximately equiproductive and their boundaries are defined as far as possible by natural boundaries. Detailed description of the series and coupes are given in a later paragraph.

172. *Felling Rules.*—The following felling rules are prescribed:—

(1) Young culms less than one year old shall not be felled under any circumstances.

(2) Culms more than a year old may be felled, provided that a minimum of six such culms shall be left in each clump. Any clump that contains only six or less culms more than a year old, shall be left unfelled.

(3) The culm should be felled as low as possible below a height of 3', but above the internode next to the ground-level.

718. *Agency of fellings.*—The fellings will be through the agency of contractors.

174. *Lease period.*—Leases will be for one year and shall correspond to the official year.

Coupe number.	*Total area.*	*Effective area.*	*Description.*	*S.I. sheet number.*
(1)	(2)	(3)	(4)	(5)
	ACS.	ACS.	1. *Bargur Series.*	
I	1,936	963	*North and East.*—From the junction Maniyarhalla, Basavamhalla near Anaipadi–Up the Maniyarhalla till it meets a stream coming from Kamparai Oddu.	36 and 37
			South.—Thence up the said stream to Kemparai Oddu and thence in a westerly direction for about two furlongs to a hill top.	
			West.—The water shed between Maniyarhalla and Basavannahalla.	
II	1,367	982	*North.*—From the junction of Basavanahalla and Maniyarhalla near Anaipadi and up the latter halla for about one mile; thence in an easterly direction up a spur passing through point 1890 for about one mile till it meets a cross ridge; thence along the cross ridge in a north-easterly direction for about four furlongs to Boliguddi 3691; thence in a south-easterly direction along the ridge to Cheria Oddu the north-west corner of Bargur enclosure.	30
			East.—Thence the western boundary of the Bargur enclosure to Tirusanapaliem to Anaipadi footpath.	....
			South.—Thence along the said footpath till it crosses the Maniyar halla.	
			West.—Down the Maniyar halla to the starting point.	
III	[illegible]	3,436	*North.*—The Tirusanapaliem–Anaipadi footpath from the crossing of Maniyarhalla to Bargur enclosure line.	30
			East.—Thence along the western boundary of the said enclosure line from the crossing of the abovesaid foo path to the crossing of Gejjalpalayam-Attimalai footpath.	....
			South.—Thence along the latter footpath for three furlongs till it meets a stream flowing westwards to Maniyarhalla; thence along the said stream to Maniyarhalla.	....
			West.—Thence down the said halla to the starting poin -the crossing of the footpath.	
			2. *Bejjalathi Series.*	
I	2,735	1,560	*North.*—The common boundary of North Bargur and Pachapalamalai reserves from Nilvorai halla to Varathipallam.	....

Coupe number. (1)	Total area. (2)	Effective area. (3)	Description. (4)	S.I. sheet number. (5)
	ACS.	ACS.	2. *Bejjalathi Series*—cont.	
			East.—Varatupallam and the stream to Aliga Akka Anai (2330) were Ullurthanda-Bejjalathi footpath passes. *South.*—The said footpath and Devaramalai east enclosure line up to Nilvora halla. *West.*—Nilvora halla to the starting point.	
II	6,979	1,034	*North.*—The common boundary of North Bargur and Pachapalamalai reserves from Varatupallam towards east up to point 1050. *East.*—Along a spur up to 1890 and thence along the ridge f Yethulumalai up to point 1700 passing through points 2480, 2528, 2170, 2130 and 2310. Thence along a stream towards west till its junction with another stream from Gummanamadappa boli point 2810. *South.*—Along the said stream to Gummanamadappa boli 2810, thence a line west to Varthipallam and thence up to a stream north-east to Aliga Akka Anai point 2930. *West.*—From Aliga Akka Anai down the Varathipallam to the starting point.	31 and 38
III	2,754	1,359	*North.*—The footpath from Bejjalathi to Aliga Akka Anai; thence along a stream south-east to Varathipallam and a line east to Gummanamdappa boli. *East.*—The stream running south-east from Gummanamdappa boli to Thethipallam and Thothipallam to the common range boundary. *South.*—The common range boundry up to the east boundary of Devaramalai enclosure. *West.*—The said enclosure boundary to the starting point.	38
			3. *Bodamalai Series.*	
I	5,970	2,740	*North.*—The river palar from the second crossing of Girgakandy-Stanley Reservoir road (about 3½ miles from branching) up to the confluence of Addikandipallam. *East.*—Thence up the said pallam to the junction of a stream rising from Kattatatavarai ridge passing through point 1550, thence up the stream to its head and the ridge. *South.*—Thence along the main ridge in a westerly direction to the crossing of Yemmatti batta ridge at a point 3570 passing through points 2950, 3230, Kavalgumma 3600. *West.*—The Yemmatti batta ridge passing through points 3000, G.T. 3772–2950 and thence down in a northerly direction to a stream, thence down the stream which joins Palar at the starting point.	25, 26, 30 and 31
II	8,691	2121	*North.*—The river Palar from the junction of Addikandipallam to Thinnapattipallam. *East.*—Tainnapattipallam up to the junction of Kallahatipallam. *South.*—Thence up the Kallahattipallam up to point 1990, thence due west along a stream to the saddle at 2610, and in the other side of the saddle along the stream to Sipanahatti halla up to Muthungi doddi. *West.*—Thence in a north westerly direction up the spur to point 3160, thence along the ridge in a northerly direction to point 3200, thence the southern and eastern boundary of coupe I.	25 and 30
III	11,951	2952	*North.*—The river Palar from the confluence of Mortally halla to the second crossing of Girgakandy-Stanley Reservoir road. *East.*—The western boundary of coupe I up to point 3570, thence along the ridge in a south-westetly direction to point 3203, thence in a southerly direction to point 3160, and thence down the spur in south-easterly direction to Sipanahatti halla at Muthugai Doddi for about 6 furlongs; thence down the said Sipanahatti halla (in a westerly direction) to Sithavaripallam; thence along the halla in a southerly direction to the northern boundary of Bargur enclosure. *South.*—Thence the northern and western boundary of the Burgur enclosure to Cherra Oddu, thence in a north-westerly direction along the ridge to Boliguddai G.T. 3691, thence along a ridge in south westerly direction for about four furlongs and thence along a spur in westerly direction to Maniyar halla passing through point 1890. *West.*—Maniyar halla and Balar to the starting point.	25 and 30

Coupe number. (1)	Total area. (2)	Effective area. (3)	Description. (4)	S.I. sheet number. (5)
	ACS.	ACS.	4. *Devaramalai Series.*	
I	1,513	1,513	*North.*—Padugut ai halla from its junction with Dodda halla along the latter halla to its junction with Mavahalla, thence up the Mavahalla to its head, thence across the saddle, thence along and the stream which joins Nilvarai halla at 1990.	....
			East.—Nilvorai halla to the crossing of the Devaramalai enclosure line.	....
			South.—Thence along a portion of eastern and northern boundary of Devaramalai enclosure line to the crossing of Devarabetta-Thodamadiswami Koil footpath.	....
			West.—Thence along the said footpath to Andikuttarhalla, thence along the said halla to Dodda halla and thence down Dodda halla to the starting point.	....
II	1,018	863	*North.*—From Padu utatti Doddi along a stream up to the saddle, and thence along Devaramalai—Ullurthanda footpath up to Ullurpallam, thence along he said pallam to its junction with Nilvaraipallam.	31 and 38
			East.—Thence along Nilvaraipallam up to point 1990.	....
			South.—Thence along small stream (running west to east and joining Nilvaraipallam at point 1990), thence across the saddle and down Mavahalla to its junction with Icharbu halla point 2590.	....
			West.—Thence along the combined stream to their junction in a northerly direction to Padugutatti Doddi.	....
III	937	842	*North and East.*—The Andikuttar halla to its crossing of Devarabetta—Thodamandiswami Koil footpath, thence along the said footpath to the crossing of Devaramalai enclosure line.	30, 31 and 38
			South.—Thence along the northern boundary of the said enclosure and thence westwards along the common boundary line of North and South Bargur reserves to the crossing of Dodda halla.	....
			West.—Thence along Dodda halla in a northerly direction to the junction of Andikuttar halla the starting point.	....
			5. *Kathrimalai Series.*	
I	4,533	820	*North.*—The Pallar and Stanloy reservoir ..	25
			East.—The eastern boundary of North Bargur reserve from Stanly reservoir in a southerly direction for about 1½ miles till it meets a stream to following between point 960 and 1050.	....
			South.—Thence up the stream to Kemparaimalai, thence along the ridge to G.T. 3,607; thence along the ridge in northerly direction to Buthrivarai G. T. 3,691; thence along the ridge in a south-westerly direction to along the ridge and spur to Santhannagirimedu 2,240 passing through points 2,130, thence in another ridge in a southerly direction to point 1,650; thence down a spur in a shouth westerly direction for three furlongs to one the tributaries of Thinnapattipallam at point 1,970; thence down the said tributary to Thinnapattipallam.	....
			West.—Thinnapathipallam.	....
II	6,766	1,285	*North.*—Southern boundary of Coupe I from the reserve bound ry l ne to Buthavari.	26 and 31
			East.—The eastern boundary of the North Bargur reserve from the stream between 960 and 1,050 upto Ullurthanda Kalakombai road.	....
			South.—Along the said road for about four furlongs to point 1 330.	....
			West.—From point 1,330 up the spur in a northerly direction to poin 2 522–Dombachimalai thence along the water shed in a northerly direction passing through points ; 2,290, 1,850, G. T. 3,402, Chinnamalai 2.270, 2,580, 3,780, 3,956, 4,095, Katrimalai, 3,350, 3,320, 3 614 Irulanguddai and 3,691—Buthivarai.	....
III	6,114	1,858	*North.*—Southern boundary of coupe I west of Buthivarai.	26 and 31
			East.—Western boundary of coupe II.	....
			South.—Ullurthanda–Valakombai road from point 1,330 to Th nnapattipallam.	....
			West.—Thinnapattipallam to its tributary joining at point 1,010 north of Valakombai.	....

Coupe number. (1)	Total area. (2)	Effective area. (3)	Description. (4)	S.I. sheet number. (5)
	ACS.	ACS.	*6. Koilnatham Series.*	
I	2,940	780	***North.***—The eastern boundary of Koilnatham enclosure and Maniyur halla from its junction with the said enclosure line. ***East.***—Maniyar halla to its junction with the footpath from Athiyur to Kongadai. ***South.***—The footpath from Anthiyur to Kongadai from its junction with Maniyar halla to Koilnattam enclosure east boundary ***West.***—The east boundary of Koilnatham enclosure.	....
II	2,083	1,038	*North.*—Doddahalla from its junction with the Palar to Koilnatham enclosure west boundary. *East.*—The western boundary of Koilnatham enclosure till its junction with the common boundary of Bargur and Bhavani ranges and thence along the said common boundary line to Palar. *South* and *west.*—The Palar river to its junction with the Doddahalla.	44 and 45
III	4,960	712	*North.*—The south and east boundaries of Guttayur enclosure and the footpath from Guttayur to Koilnatham to its junction with Koilnatham enclosure west boundary. *East.*—The said enclosure west boundary up to its junction with Doddahalla. *South.*—Doddahalla to Palar. *West.*—The Palar from its junction with Doddahalla to Guttayur enclosure.	....
			7. Koppathukombai Series.	
I	3,478	1,663	*North.*—Basavanhalla. *East.*—From the junction of Basavanhalla and Maniyar halla south to 1720; thence south along the ridge to Mariborai; thence south along the ridge to Kembarai Oddu; Keraianloli and Aladabarai Oddu. *South.*—The ridge from Aladabarai Oddu running west and north west along 4400, 3150, 3030, and 2740. *West.*—From 2740 along the ridge passing through 2710 2380 and thence in southerly direction to Basavana halla and thence down the stream to Maniyarhalla the starting point.	....
II	6,679	2,330	*North*—Ugiam-Anaipadi footpath from Palar to point 2,290, thence in a northerly direction along the ridge to Karadiorai passing through 2,894 Iralakal bet a 2050, thence in an easterly direction for two furlongs to a stream point 1510, thence down the stream to Basavana halla and to Anaipadi. *East.*—Western boundry of coupe 1 to 2740, thence along the ridge south east and east to Aladabarai Oddu, thence along the ridge south the Sandakumari Oddu and Tekkan Oddu thence east to Mullangi anai. *South.*—Koilnatham enclosure north boundary west to Naikal Oddu. *West*—The ridge running north from Naikal Oddu to 3420, thence along the stream north to Kombai halla; thence Kombai halla to its junction with Palar; thence down the Palar to the crossing or Ugiam-Anaipadi footpath.	29, 30 and 31 ....
III	4,696	1,509	*North.*—Kombai halla from its junction with Palar. *East.*—Kombai halla up to its junction with the stream from 3420 thence along the ridge south to Naikal Oddu. *South.*—Koilnatham enclosure north boundary line west to Tekkal Oddu, thence south to its junction with the footpath from Sengulam to Guttayur. *West.*—Along the said footpath to its junction with the east boundary of Guttayur enclosure and the Palar to its junction with Kombai halla.	36 and 37

Coupe number. (1)	Total area. (2)	Effective area. (3)	Description. (4)	S.I. sheet number. (5)
	ACS.	ACS.	*8. Sondapur Series.*	
I	1,125	495	*North.*—The Bargur-Ullurthanda footpath till it meets the Chinna Solaganai-Sondapur footpath near point 2730. *East.*—Thence along the latter footpath till it meets the northern boundary line of Sundapur enclosure. *South.*—Thence westwards along the said enclosure and the common boundary of Thamarakkarai and North Bargur reserves till it meets the Bargur Ghat road. *West.*—Thence up the Ghat road till it meets the eastern boundary of Bargur enclosure line; thence along the eastern boundary of the said enclosure till it meets the Bargur-Ullurthanda footpath the starting point.	30 and 37
II	629	556	*West and north.*—Along the Bargur Ullurthanda footpath (via Karanbetta) in an easterly direction from its junction with Sundapur-Chinna Solanganai footpath near point 2730 till it meets the Dodda halla. *East.*—Thence up the Dodda halla till a stream (near Halla Kotti) coming from west joins near point 1320. *South.*—Thence up the said stream to the Saddle where it meets a footpath; thence along the said footpath to the starting point.	....
III	2,356	1,036	*North.*—Southern boundary of Coupe II. *East.*—Dodda halla till it meets the common boundary of Thamarakkarai and North Bargur reserves. *South.*—The said common boundary line west of Doddahalla till it turns north at point 3450 Thippanjonai Oddu. *West.*—From Thippanjonai Oddu in a northerly direction along the common boundary line to the south-east corner of Sondapur enclosure; thence along the eastern and northern boundary of the said enclosure till it meets the Sondapur-Chinna Solaganai footpath at point 2730; thence along the said footpath northwards to the starting point.	30 and 37
			9. Thallakkarai Series.	
I	1,037	974	*North.*—Starting from point 4550 about 1 furlong south of Aladabarai Oddu along Vellimodai halla to its junction with Maniyar halla and Maniyar halla to its junction with Dolli enclosure line; thence along the east and south boundaries of the said enclosure till it crosses the footpath from Chikkadalli to Thalakkarai. *East.*—The said footpath till it meets the Thalakkarai enclosure north boundary line. *South.*—Along the said enclosure boundary and the common range boundary to Koilnatham enclosure east boundry. *West.*—The Kalnatham enclosure east boundary to Mallangi Anai; thence a line west to Thekkan Anai Oddu; thence along the ridge to Sandekamari Oddu and to the starting point on the northern boundry.	37
II	1,384	905	*North.*—From Kembarai Oddu along a stream to Maniyur halla; thence due south along the said halla till another stream joins the halla; thence up the halla to Attimalai footpath; thence along the path to Bargur enclosure line; thence along the said enclosure line till it joins Thamarakkarai Reserved Forest west boundary. *East.*—Thamarakkarai Reserved Forest west boundary to Dolli enclosure. *South.*—Dolli enclosure west boundary, Maniyar halla up to its junction with Vellimoda halla, thence up Vellimoda halla to Aladabarai Oddu passing through point. *West.*—The ridge to Kembarai Oddu (*via* Karian boli).	....
III	580	1,292	*North.*—The south boundary of Bargur enclosure to Bargur Ghat road *East.*—Bargur Ghat road, the north and west boundaries of Thamarakarai enclosure till it meets the common range boundary. *South.*—The common range boundary to Thalakerai enclosure and thence along the said enclosure north boundary till it crosses the footpath to Chikkadolli.	30 and 37

Coupe number. (1)	*Total area.* (2)	*Effective area.* (3)	*Description.* (4)	*S.I. sheet number.* (5)
	ACS.	ACS.		
			9. *Thallakarai Series*—cont.	
			West.—The said footpath, Dolli enclosure, east and north boundaries and Thamarakkarai reserved forest west boundary to the starting point on the northern boundary.	....
			10. *Thamarakarai Series.*	
I	2,561	1,137	*North.*—From the junction of the stream starting from Devaramalai enclos re west boundary north of Madavarai Ungalsionnai With Dodda halla along the said stream to the said enclosure boundary. *East.*—The said enclosure west boundary to Kalavarai. *South.*—The common range boundary from Kallivarai to the eastern bound ry of eratty enclos re; thence along the said enclosure north boundary to Orlamadura Pallam. *West.*—Orlamadura Pallam to the starting point.	37 and 38
II	1,733	1,237	*North.*—The north boundary of Thamarakarai Reserved forest to Sondapur enclosure, the said enclosure west and south boundaries and Thamarakarai Reserved forest north boundary to Devarmalai enclosure west boundary. *East.*—Devaram lai enclosure west boundary to a point one furlong north of Madavarai Ungal sonnai. *South.*—From the said point along the stream to Orlamadura Pallam and Basavana halla up to Bargur Ghat road between mile stones 28 and 29 point 3130. *West.*—Bargur Ghat road to the starting point on the northern boundary.	37 and 30
III	2,043	1,298	*North.*—Basavana halla to its junction with Orlamaduvu pallam. *East.*—Orlamaduvu Pallam. *South.*—The eratty enclosure north and west boundaries. *West.*—The common range boundary to Thamarakkarai, enclosure the east and north boundaries of the said enclosure and Bargur Ghat road to the starting point on the northern boundary.	37
			11. *Thattakkarai Series.*	
I	6,600	4,144	*North.*—Sipanahattipallam, Saddle and Kalhatti halla up to the juction of Immakethana halla. *East.*—The above said halla up to Chinna Solaganai; thence along Sundapur Chinna Solaganai footpath till in meets Bargur-Karnabetta footpath. *South.*—Karnabetta-Bargur footpath up to the crossing of Bargur enclosure line. *West.*—Thence the eastern and northern boundaries of the said enclosure to the crossof Sithavaraipallam; thence down the said pallam to the juction of Sippanahatti halla the starting point.	30
II	4,701	2,831	*North.*—Kallahattipallam from Immakethana halla up to Thinnapattipallam. *East.*—Thence the said Thinnapattipallam to the junction of Kathiar. *South.*—Thence along Kathiar to its crossing of Sundapur Solaganai footpath. *West.*—The eastern boundary of Coupe I.	30 and 31
III	7,109	3,809	*North.*—From Sundapur Solaganai footpath in an easterly direction along Kathiar to its jnnction with Doddahalla; thence along the said halla till its crossing of Valakombai-Ullurthanda road, thence along the said road to Ullurthanda and enclosure line. *East.*—Thence in a southerly direction along the said enclosure line till it meets Ullurpallam. *South.*—Ullurpallam up to point 1720 where a footpath crosses the stream, thence to the other side of saddle along a steam which meet Padugutati halla at Paduguttati Doddi, thence along the said halla to Dadda halla; thence along the said halla to 1610 where footpath (Ullurthanda-Karanabetta) crosses; thence along the said footpath to Karanabetta; thence along the Bargur-Kamana betta footpath to its crossing with Sondapur-Solagandi footpath. *West.*—The eastern boundary of Coupe I up to Kadiar.	30 and 31

Coupe number.	*Total area.*	*Effective area.*	*Description.*	*S.I. sheet number.*
(1)	(2)	(3)	(4)	(5)
	ACS.	ACS.		
			12. *Palamalai South Series.*	
I	833	205	*North.*—By Nangamguthi Kutankadu footpath. *East.*—By Neringipet-Kutenkadu footpath. *South.*—By talamala Reserved Forest boundary. *West.*—By Nagamguthi-Naringipet footpath.	
II	1,045	580	*North.*—By Periakulam enclosure boundary. *East.*—By western boundary of Coupe I. *South.*—By Palamalai Reserved Forest boundary. *West*—By Thengalampatti Muniappan Koil footpath.	
III	8,077	546	*North.*—By Peria pallam. *East.*—By Periakulam enclosure boundary and western boundary of Coupe II. *South and West.*—By Palamalai Reserved Forest boundary.	
			12A *Palamalai East Series.*	
I	1,477	648	*North.*—By Thukkampattai-Jadaipandararm Kombai footpath *via.* Kuttai kadu. *East.*—By Thimmanpatti-Kuttai kadu footpath. *South.*—By Ramanpatti enclosure boundary. *West.*—By Thimman patti-Kombai kadu footpath.	
II	2,430	386	*North.*—By Thukkampatti-Jadai pandaram-Kombai footpath, *via* Kuttaikadu. *East.*—By Palamalai Reserved Forest boundary. *South.*—By Ramanpatti-Shikanur footpath. *West.*—By Ramanpatti enclosure line.	
III	2,555	409	*North.*—By western boundary of Goupe II. *East.*—By Palamalai Reserved Forest boundary. *South.*—By Nakkal Ar. *West.*—By Ramanpatti enclosure boundary and sothangadu foot-path.	
			13. *Palamalai West Series.*	
I	558	140	*North.*—By Bomanur-Thimmanpatti footpath. *East.*—By Ramanpatti enclosure boundary. *South.*—By Kaval Andiyur-Pulampatti footpath, *West.*—By Palamalai Reserved Forest boundary.	
II	549	162	*North.*—By Southern boundary of Coupe I and Ramanpatti enclosure boundary. *South.*—By Kannamuchi-Pulampatti footpath. *West.*—By Palamalai Reserved Forest boundary.	
III	918	278	*North.*—By Southern boundary of Coupe II. *East.*—By Ramanpatti enclosure boundary. *South.*—By stream from 4,900. *West.*—By Palamalai Reserved Forest boundary.	

SECTION 5.—TABULAR STATEMENT OF FELLINGS.

175. *Statement of fellings.*—The areas and boundaries of the coupes is given below:—

The sequence of working of the coupes of the different series is as follows :—

Coupe number.	Years of working.
(1)	(2)
I	1957–58, 1960–61, 1963–64, 1966–67 and 1969–70.
II	1958–59, 1961–62, 1964–65, 1967–68 and 1970–71.
III	1959–60, 1962–63, 1965–66, 1968–69 and 1971–72.

SECTION 6.—MISCELLANEOUS REGULATIONS.

176. *Grazing regulation.*—The entire Working Circle will normally be open to grazing except such portions of the reserves as are closed to grazing under the prescriptions laid down for other Working Circles and in the Chapter on 'Miscellaneous Regulations' for the different details under this Working circle.

177. *Fire Protection.*—No. special measures of fire protection are prescribed for this Working Circle except the general measures in the Chapter on 'Miscellaneous Regulations'.

178. *Record of Statistics.*—A monthly account of all removals of bamboos shall be rendered by the contractor, not later than the 10th of the subsequent month. Details must be furnished showing the outturn or removals under the different local bamboo classes, prevalent from time to time.

179. *Control.*—Control Books shall be maintained by the District Forest Officer in the form supplied to him, copies of which can be seen in Appendix III of this working Plan the contractor, not later than the 10th of the subsequent month. Details must be furnished

CHAPTER VII.—WORKING PLAN FOR THE GRAZING WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION AND AREA—GENERAL CONSTITUTION.

180. The Grazing Working Circle comprises of all reserves included in this range and is 159,975·02 acres in extent. But the area open to grazing every year will, however, vary, depending upon the total extent of worked fuel coupes, regeneration areas and fire-burnt areas that will be closed to grazing from time to time.

The areas which will be closed to grazing are the following :—

(1) Worked fuel coupes will be closed to grazing for a period of ten years including the year of felling.

(2) All the areas under the Shannar Pollard Working Circle, where closure for grazing is prescribed.

(3) If large tracts of forest are burnt at any time, such areas are not to be opened to grazing until such time the grass in that area had recovered itself sufficiently to permit grazing. The total extent that can be so closed by the District Forest Officer shall not exceed 1,000 acres.

SECTION 2.—METHOD OF TREATMENT AND OBJECTS OF MANAGEMENT.

181. As has been discussed earlier in Chapter V of Part I of this Working Plan (paragraph 78) cattle breeding is one of the main occupations of the people of this locality. The cattle depend to a large extent on the forests for their grazing and hence our objects of management are—

(a) to provide adequate grazing for the cattle of the villages in the neighbourhood of the reserves, consistent with the conservation of the forests and with the objects of management of the other working circles;

(b) to limit the incidence of grazing to the extent possible to what the forests can reasonably bear and to derive a legitimate amount of revenue by levy of licence fee for cattle grazing in the forest; and

(c) to improve grazing facilities.

182. *Regulation of grazing.*—Grazing will be regulated by issue of permits subject to the usual conditions.

183. *Issue of permits.*—Grazing permits will continue to be issued by the Forest subordinates as at present. The permits issued will be valid for the whole division. All animals except goats, may be permitted to graze in the forests.

184. *Grazing rates.*—The annual rates prevalent at present, viz., twelve naye Paise for a sheep, twenty-five naye Pais for a bull or horse and fifty naye Paise per head for buffaloes, rupees twelve for an elephant, will be continued to be charged. Cattle of the neighbouring villages in the adjoining Mysore State will also be permitted to graze at these rates.

Note.—A rate of 13 nP. to be charged for sheep for the grazing year 1957–58 only.

185. *Grazing Year.*—The grazing year will be from the 1st *September* to 31st of *August.*

186. *Penning.*—In the authorized pens of division, penning may be permitted free for licensed cattle. Penning licences will be issued for individual pens on application from the owners.

A list of pentas and their possibilities is given in a later paragraph. In addition to these, the District Forest Officer shall permit penning of cattle in any other place, depending on the requirements of the public from time to time with the prior sanction of the Conservator of Forest. No penning shall, however, be allowed in areas falling under the Fuel Working Circle or the Shanar Pollard Working Circle or within half a mile of them. The Range Officers shall issue penning permits upto the possibility of each pen.

187. *Pen hygiene.*—The sanitation in the cattle pens is found to be generally satisfactory. Shifting of cattle stands and burning of all rubbish such as cowdung, etc., should be enforced to maintain the pen hygiene. This is of a paramount importance, as failure to enforce this is likely to lead to harbouring of disease carrying germs and bacteria, which will affect the forest fauna in the long run, apart from causing ailments to the cattle themselves. If, however, the cowdung, etc., are required as manure, the penning license holder may be permitted to remove them, before burning the other waste.

188. *Building sheds.*—The graziers may be permitted to construct sheds to house cattle and for themselves, in these penning sites, on prior approval of the District Forest Officer.

189. *Pens and their possibilities.*—The following is the list of pens that are in existence now in this tract and their possibilities.

List of pentas on the Kollegal forest division and their possibility—Bergur range.

Serial number.	*Name of reserve.*	*Name of penta.*	*Water sources.*	*Possibility.*
(1)	(2)	(3)	(4)	(5)
1	North Bargur ..	Bodamalai pen	Small taluk	300
2	Do. ..	Bodatti	Bodatti halla	200
3	Do. ..	Kambai parti	Do. ..	500
4	Do. ..	Naggamara dahatti ..	Yemmatti halla	300
5	Do. ..	Yemmathi patti ..	Do. ..	200
6	Do. ..	Varattikombai patti ..	Uppair pallam	300
7	Do. ..	Jiginikombai	Palar	300
8	Do. ..	Mapatti	Do. ..	1,000
9	Do. ..	Dinna patti	Thinnapattipallam ..	500
10	Do. ..	Donimadugu patti	Donimadugupallam ..	200
11	Do. ..	Narainokki doddi	Do. ..	500
12	Do. ..	Paduguttati doddi	Paduguttati halla	600
13	Do. ..	Ittatte doddi	Do. ..	200
14	Do. ..	Berabetta	Berabuttate halla	600
15	Do. ..	Koppathukembai	Koppathukembai halla ..	300
16	Do. ..	Verabuhatti	Small stream	200
17	Do. ..	Anaipadi	Maniyar halla	400
18	Do. ..	Borodotti patti	Ullurthandapallam .. }	
19	Do. ..	Alanai patti	Do. .. }	500
20	Do. ..	Anner halli	Basavan halla	500
21	Do. ..	Arekaduvu	Do.	500
22	Do. ..	Budatti	Nergankembaihalla ..	300
23	Do. ..	Gulhalti	Stream near by	350
24	Do. ..	Kalhatti	Kalhatti halla	
25	Do. ..	Nilkalhatti	Do.	300
26	Do. ..	Kannabetta patti	Kannabettapatti Kerai ..	200

190. *Water facilities.*—Most of the pentas in this range do not have perennial sources of water-supply in their vicinity. The sources of water-supply for these pentas are only tanks and wells. Most of the tanks carry water only for a few weeks after the rains, while many wells completely dry up in the hot-weather when the need for water is very keenly felt.

The mortality among cattle is fairly high in these localities during the years of severe drought, due among other reasons, to lack of fodder and water facilities. Unfortunately, during the course of the last decade, this has almost been an annual feature. Inasmuch as all the cattle of this locality depend only on the reserved forests for their grazing (as mentioned earlier), maintenance of good water-sources and to make them available for the longest possible period is a matter of paramount importance to the Forest department. The improvement of the existing and the creation of new water sources was impressed upon in the earlier working plans. Despite the fact that this was done and periodical repairs were carried out to these tanks and wells, the position regarding water-supply in these tracts, is still far from satisfactory. The possibilities of providing wells in the beds of tanks near popular pens is suggested and the discretion of selecting the pentas where wells are necessary, is left to the District Forest Officers who shall take up this work depending upon the availability of funds on prior sanction of the Conservator of Forests.

List of water sources in the Bargur Range is given below :—

Serial number and name of reserve.		*Name of the water source.*	*Remarks.*
(1)		(2)	(3)
1	North Bargur	Athikola chavi	Semi-perennial
2	Do.	Keral Kerai	Perennial.
3	Do.	Maniyur halla	Semi-perennial.
4	Do.	Karubettakerai	Do.
5	Do.	Kodu karai	Do.
6	Do.	Solaganai bhavi	Do.
7	Do.	Chinna Solaganai bhavi	Do.
8	Do.	Goruvi kerai	Do.
9	Do.	Naikerai	Do.
10	Do.	Athimalai chavi	Do.
11	Do.	Koppathukombai	Do.
12	Do.	Devasanakerai	Do.
13	Do.	Alanai kerai	Do.
14	Do.	Kunta near Ajjappan Koil	Do.

Serial number and name of reserve. (1)	Name of Water source. (2)	Remarks. (3)
15 North Bargur	Modagus in Thinnabatkadubattam	Semi-perennial.
16 Do.	Badattichavi	Do.
17 Do.	Basavana hala	Do.
18 Do.	Uralikerai	Do.
19 Do.	Alksur kerai	Do.
20 Do.	Uppanirpallam	Do
21 Do.	Thatakeraipallam	Do.
22 Do.	Yemmattipallam	Do.
23 Do.	Addikanipallam	Do.
24 Do.	Thinnapallipallam	Do
25 Do.	Donimadugupallam	Do.
26 Pachapalamali	Alanipallam	Do.
27 Do.	Varathipallam	Do.
28 Do.	Thummalakadavuppallam	Do.
29 North Bargur	Departmental well near Girigakandy sub-line.	Perennial.
30 Do.	Minchins well near Palur crossing	Do.

192. *Closing of pens on account of fire, etc.*—The District Forest Officer shall, at his discretion, close pens in the vicinity of which, fires have occurred or for any other reason.

SECTION 3.—CUTTING AND REMOVAL OF GRASS FROM RESERVES.

193. *Grass removals from reserved forests.*—Free removal of long grass in head-loads only will be permitted, exclusively for bona fide domestic use and not for sale. Such removals may be made throughout the year from all areas except those notified in the District Gazette from time to time as closed to grazing. The District Forest Officer shall terminate this concession in any locality for any serious breach of the Forest Act by the people who enjoy this concession or in the event of any serious fires and the Collector shall be informed of such closures immediately.

194. *Removal of grass in cart-loads.*—The local ryots will be permitted to remove grass in cart-loads from specified localities on payment at the rate prevalent from time to time under the same condition governing the removal of grass in head loads (vide paragraph above).

These concessions are in vogue even now, but very few among the public are aware of its existence. It is suggested that wide publicity be given and the public encouraged to avail of them.

SECTION 4.—OTHER REGULATIONS.

195. *Demarcation of closed areas.*—In addition to the notification in the District Gazette, the people of the villages must be informed of the areas closed to grazing by means of tom-tom and the closed areas themselves clearly indicated on the field by prominent sign boards at salient points.

196. *Control.*—The control forms prescribed (vide appendix) and copies of which have been supplied to the District Forest Officer shall be maintained by him.

CHAPTER VIII.—WORKING PLAN FOR THE MINOR FOREST PRODUCE WORKING CIRCLE.

SECTION 1.—GENERAL CONSTITUTION OF THE WORKING CIRCLE.

197. *General constitution.*—The Minor Forest Produce Working Circle includes the entire area of the range. Except for tamarind, the removal of which from unreserves is regulated by the Revenue Department, all minor products in the unreserves, enclosed in or adjoining the reserves, will be exploited along with those of the reserved forests. Ordinarily the range will form the unit of management for the different types of minor forest produce, but in the case of tamarind smaller units are prescribed.

SECTION 2.—METHOD OF TREATMENT.

198. *System prescribed.*—The minor forest produce of this range will be continued to be extracted through the agency of contractors except deer and sambhur horns, elephant tusks and bones and honey and wax which will be collected departmentally.

199. *Detailed prescriptions.*—The following details are prescribed with reference to the leases of various minor forest produce :—

(a) *Gallnuts.*—The right to collect gallnuts will be leased out for the reserves and unreserves of the range separately and thus there will be only one farm for the entire range. The period of lease will be from the 1st of August to the 30th of April following. Sales shall be held in good time, so that the farms may be handed over to the contractors on the due dates.

The general stocking of *terminalia chebula* trees is good at present and hence no special prescriptions for artificial regeneration of these species are made.

(*b*) *Avaram* (cassia auriculata) *bark*.—The range will from the unit of lease for this produce and the lease will run from the 1st of July to the 30th of June following. The lease unit will include the reserves and unreserves including local fund road margins in the unreserves The revenue realized will be apportioned to and distributed among the different departments.

(*c*) *Konnai* (cassia fistula) *bark*.—The Konnai bark, used extensively for leather tanning, will be worked on a rotation of three years. The entire range, including the unreserves, will form the unit of lease and will be worked in the following years :—

1957–58, 1960–61, 1963–64, 1966–67 and 1969–70.

The period of lease will be for one year from 1st of July.

(*d*) *Tamarind*.—So far, the right to collect tamarind from the reserved forests was sold with the entire range as the unit. It is reliably learnt, that the contractor who takes the lease of this produce over the entire range is generally in the habit of sub-letting to others the right of collecting tamarind over specified localities. Further it is felt that selling this produce with such a large unit as the range, has been restricting the possibilities to a selected few contractors only. Hence, in order to make it possible for more competitors to enter the field and consequently to get a probable increased revenue, smaller units of lease known as farms have been formed as below :—

Name of farm.	*Discription of area included.*
1 Bargur	All the reserves included in the area mentioned below— NOTE.—The Palar from Girigaikandy up to Sorakamaduvu, i.e., at the place where the Timmapattipallam joins the Cauvery (part of the range boundary). *East*.—Thence in a southerly direction along Timmapattipallam, Doni Madagu pallam and the Dodda halla and eastwards along Paduguttai halla and thence southwards along Timmapatti Devermalai footpath till the enclosure and thence the eastern boundary of the enclosure till it joins the range boundary. *South*.—Range boundary (part). *West*.—Range boundary up to Girigaikandy.
2 Mettur	*North*.—Range boundary (Palar) from Sorakamaduvu till Cauvery and part of Cauvery. *East*.—The Cauvery through the Stanley reservoir till Nerinjipet and a line to eastern boundary of Palar reserve forests and the Palamalai reserve forests. *South*.—The southern and western boundary of Palar malai reserved forest and the district boundary till it meets the southern boundary of Kumarayanur village (Coimbatore district, Bhavani taluk) and the village boundary till the reserved forest. Thence along the range boundary. *West*.—Eastern boundary of Bargur farm.

The lease will be for six months from 1st January.

(*e*) *Stone and tree moss*.—The entire range will form the unit and the lease period will be for one year from 1st of July.

(*f*) *Korai grass and date leaves*.—The korai grass and date leaves will be sold together, with the Range forming the unit. The period of lease will be one year from 1st of July.

(*g*) *Other items of minor products*.—The other items of minor forest produce shall be leased out either jointly or separately at the discretion of the District Forest Officer, with the entire range forming the unit. The period of lease will normally be from the 1st of July to the 30th of June following, but the District Forest Officer may reduce the period of lease over specified localities or for a specified produce or both. In such cases the agreement drawn up shall be specific of such restrictions to avoid complications. The unit of lease shall include the reserves and unreserves in each range.

(*h*) *Honey and wax, deer and sambhur horns, elephant tusks and bones*.—The collection of these will be continued to be done departmentally and the products disposed of, in accordance with orders in force, from time to time.

SECTION 3.—CONTROL.

198. *Accounts.*—The contractors will furnish to the concerned Range Officers accounts of minor forest produce collected by them every month.

199. *Control.*—A control book shall be maintained by the District Forest Officer in the prescribed forms supplied for the different minor forest produce operations.

CHAPTER IX—MISCELLANEOUS REGULATIONS.

SECTION 1.—FIRE PROTECTION.

202. *General.*—Fires are fairly frequent in the forests of this tract due to various agencies, but they are mostly accidental ones intentional fires being rare. Elaborate fire protection measures are not considered necessary over a large portion of these forests. The various fire protection measures prescribed under the different working circles of the working plan shall be followed. In addition to these the following is prescribed :—

Fire tracing at the commencement of the fire season in special localities such as forest timber depots, halting places, forest buildings, etc.

In addition it is left to the discretion of the District Forest Officer to conduct, with the prior approval of the Conservator of Forests, any special measures of fire protection that he may consider necessary from time to time.

SECTION 2.—BUILDINGS.

203. It is generally observed in this tract that most of the forest buildings are not kept in proper repairs. Generally the annual expenditure on these buildings is only for white-washing. Many of the buildings are not in sound condition. It is suggested that all the forest buildings of this locality are gone over systematically and the necessary repairs done over a period of three years and the buildings brought up to correct standards of comfort and maintenance.

204. *New buildings.*—The existing inspection shed at Ullurthanda should be converted into a pucca ' B ' type rest-house with two sets of rooms, as large scale activities are expected to be carried out by the Forest department during the currency of the working plan. Under this working plan two extra fuel series have been formed in this locality and it will also be the centre of activity for extraction of bamboos if the proposed paper pulp factory materialises at Mettur Dam. Under these circumstances it is proposed that this work be taken up immediately. No other building need be constructed now.

SECTION 3.—ROADS.

205. All roads and bridle paths in this tract will be kept in proper repairs.

206. The Sorakamaduvu-Ullurthanda road, 12 miles, 5 furlongs in length, which was constructed in 1945–47, should be taken up for metalling under an organized five-year plan, starting from 1958–1959. This road will serve as the main outlet for the firewood from the new fuel series of this range and also for the bamboos of many series of this range and the adjoining Ramapuram range of the Mysore State. The bamboos from these parts will have to be taken to Mettur Dam as raw materials for the proposed paper pulp factory. There is heavy and continuous movement of forest products over this road all through the year and metalling this road is absolutely necessary to facilitate easy transport.

SECTION 4.—WATER-SUPPLY.

207. The position regarding water-supply is generally satisfactory in this tract.

SECTION 5.—WORKING PLAN MAPS.

208. No significant changes have been made in the limits of coupes formed in the earlier working plans under the Reserve Sandal and Village Sandal Working Circles. No fresh maps are issued for the Reserve Sandal Working Circle but the limits of the series and coupes formed under this working circle are marked along with the details of work relating to other working circles in the 4''—1 mile scale S.I. sheets accompanying this working plan.

SECTION 6.—CONTROL MAPS AND RECORDS.

209. The control maps will be maintained and control records as prescribed in Appendix III shall be maintained.

CHAPTER X.—ESTABLISHMENT AND LABOUR.

210. *General.*—The strength of establishment and labour are at present quite adequate and as such no changes are contemplated or prescribed.

CHAPTER XI—FINANCIAL FORECAST AND COST OF THE WORKING PLAN.

SECTION 1.—FINANCIAL FORECAST.

211. **Statements of revenue and expenditure.**—The following statements give the estimated revenue and expenditure for the period 1957–58 to 1971–72 :—

Revenue: Particulars. (1)	Revenue: Amount. (2)	Expenditure: Particulars. (1)	Expenditure: Amount. (2)
	1. Reserve Sandal Working Circle.		
	RS.		RS.
By sale of 30 tons sandalwood per annum at Rs. 3,000 per ton for 15 years.	13,50,000	Extraction charges at Rs. 130 per ton for 15 years	58,500
	2. Village Sandal Working Circle.		
By sale of 22½ tons of sandalwood per annum at Rs. 3,000 per ton for 15 years.	10,12,500	Extration charges at Rs. 130 per ton for 15 years	43,875
		Compensation to pattadars at Rs. 5,000 per year for 15 years (anticipated yield with good propaganda).	75,000
		Total ..	1,18,875
	3. Fuel Working Circle.		
By sale of 420 acres per year at Rs. 60 per acre for 15 years	3,78,000	For survey and demarcation of sub-compartments including planting stones at Rs. 30 per sub-compartment for 15 years.	2,700
	4. Shanar Pollard Working Circle.		
By sale of 183 tons of Faggot wood per year at Rs. 5·20 per ton, 13 naya Paise per headload of 2 quarter for 15 years.	14,274 or 14,500	For survey and demarcation of coupes at Rs. 30 per coupe for 15 years ..	450
	5. Bamboo Working Circle.		
By sale of 13 coupes at Rs. 3,000 per coupe for 15 years	5,85,000	Nil.	..
	6. Grazing Working Circle.		
By sale of grazing permits at Rs. 8,000 per year for 15 years	1,20,000	For providing water facilities and repairs to existing pond, etc. at Rs. 500 per year for 15 years.	7,500
	7. Minor Forest Produce Working Circle.		
By sale of minor forest produce at Rs. 6,000 per year for 15 years ..	90,000	For collection of honey at Rs. 400 per year	6,000

Revenue. Particulars.	Amount. RS.	Expenditure. Particulars.	Amount. RS.
		8. *Miscellaneous prescriptions.*	
Receipts from compounding fees, etc. at Rs. 2,000 per year for 15 years.	30,000	*Buildings.*—Building one forest rest-house at Ullurthanda	10,000
Receipts from other sources at Rs. 1,000 per year for 15 years (includes fines and forfeitures, drift and waif wood, etc).	15,000	Maintenance of buildings at Rs. 1,000 per year	15,000
		Roads.—Maintenance of existing roads at Rs. 4,000 a year for 15 years ..	60,000
		Formation of the Sirakamaduvu Ullurthanda Road at Rs. 12,000 per mile.	36,000
		Water supply.—Maintenance of wells, tanks, etc., at Rs. 300 per year for 15 years.	4,500
		Stores Tools and Plants.—Renewal and replacement at Rs. 200 per year for 15 years.	3,000
		Purchases at Rs. 100 per year for 15 years	1,500
		Taxes and other miscellaneous charges at Rs. 500 per year for 15 years.	7,500

The following statement shows the estimated expenditure on establishment from 1957–58 to 1971–72 :—

	Amount. RS.
Controlling staff.	
1 District Forest Officer on an average salary of Rs. 500 per mensem (1/6th allotment made)	15,000
2 Proportionate cost of District Forest Office Establishment at an average of Rs. 300 per (apportioned) month ..	54,000
Executive staff.	
1 One Range Officer on an average total emolument (including allowance) of Rs. 274 per month) ..	49,320
2 Five foresters on an average total emolument (including allowances of Rs. 100 per month ..	90,000
3 Special pay for two foresters at Rs. 13·50 per month	2,430
4 Nineteen forest guards on an average total emolument (including allowances) of Rs. 60 per month ..	2,05,200
5 Fifteen reserve watchers on an average monthly emolument (including allowances) of Rs. 42 per month ..	1,13,400
6 Three bungalow watchers on an average monthly emolument and Rs. 40 per month ..	21,600
7 Travelling allowance of Rs. 300 per month (includes transfer travelling allowance, etc.) ..	54,000
8 Contingencies and other expenses at Rs. 500 per year ..	7,500
Total ..	6,12,450 or 6,12,500

Abstract of Revenue and Expenditure.

The followings is the abstract of the anticipated revenue and expenditure from 1957–58 ot 1971–72 from the Burgur Range.

REVENUE.

Particulars.	*Amount.*
	RS.
(1)	(2)
1 From the Reserve Sandal Working Circle	13,50,000
2 From the Village Sandal Working Circle	10,12,000
3 From the Fuel Working Circle	3,78,000
4 From the Shannar Pollard Working Circle	14,500
5 From the Bamboo Working Circle	5,85,000
6 From the Grazing Working Circle	1,20,000
7 From the Minor Forest Produce Working Circle	90,000
8 From Miscellaneous sources	45,000
Total ..	35,95,000

EXPENDITURE.

Particulars.	*Amount.*
	RS.
(1)	(2)
1 On Reserve Sandal Working Circle	58,500
2 On Village Sandal Working Circle	1,18,875
3 On Fuel Working Circle	2,700
4 On Shannar Pollard Working Circle	450
5 On Grazing Working Circle	7,500
6 On Miscellaneous expenditure	1,97,500
7 On Establishment	6,12,500
Total ..	9,98,025

	RS.
The average annual revenue is expected to be	2,39,666
The average annual expenditure is expected to be ..	66,335
The average annual profit is expected to be	1,73,331

SECTION 2.—COST OF THE WORKING PLAN.

212 *Cost of preparation of the working plan.*—The following statements shows the details of expenditure incurred for the preparation of this working plan (part of the cost of revision of the working plan has been charged to the plan for the Kollegal and Ramapuram Ranges) :—

	Amount.	
	RS.	nP.
1 Pay of officers	1,263	87
2 Pay of other establishment	2,447	56
3 Travelling allowances	2,105	37
4 Fixed travelling allowances	281	06
5 Other Compensatory allowances..	102	87
6 Dearness allowances	1,110	69
7 Works	269	31
8 Contingencies	68	50
9 Proportionate cost of the establishment of the Conservator of Forests Development Circle and his staff.	3,529	87
Total ..	11,179	10

The total cost of the working plan is Rs. 11,179 and this works out to 0.07 nP. per acre of forests.

CHAPTER XII.—SUMMARY OF PRESCRIPTIONS.

Part II.

Future management discussed and prescribed.

CHAPTER I.—BASIS OF PROPOSALS.

Particulars.

Objects of management.—This Working Plan deals with the Bargur Range of the Coimbatore North Division as constituted on 1st November 1956. The objects of management are (i) to meet the demand of the public for such major and minor forest products as are available in this tract in a sustained manner, with due regard to the principles of silviculture and to maintain the large tracts of the reserved forests of the locality in their present condition to the extent possible in perpetuity in the larger interests of the country and (2) to realize the maximum sustained financial return from the forests of this tract.

Methods of treatment.—Sandal from the reserved forests as well from the unreserves and certain patta lands will be worked under the natural selection system. Fuel will be worked under the simple coppice system. Faggot wood for the requirements of the shannars of the neighbouring villages will be supplied from coupes worked under the simple coppice system. Bamboo will be worked under the usual methods, a sort of selection system. Grazing and penning will be allowed under permits. Leasing out of the Minor Forest Products will be continued.

Working circles.—The following working circles have been constituted :—

(1) Reserve Sandal Working Circle.

(2) Village Sandal Working Circle.

(3) Fuel Working Circle.

(4) The Shannar Pollard Working Circle.

(5) Bamboo Working Circle.

(6) Grazing Working Circle.

(7) Minor Forest Produce Working Circle.

Period of the working plan.—This working plan will be in force from 1957–58 to 1971–72.

Particulars. (1)	Paragraph. (2)

CHAPTER II.—WORKING PLAN FOR THE RESERVE SANDAL WORKING CIRCLE.

Constitution.—All areas where sandal is found to occur in workable quantity have been included in this working circle. 90

Area.—The total area of this working circle is 57,354 acres. Four felling series have been constituted as detailed in the statement. 91

Character of vegetation.—The type of forests in which sandal occurs has been described in Part I, Chapter II. 92

Valuation of the crop.—The annual yield is given in Chapter II of Part II. The average annual yield in the past can be expected to be maintained. 93

Silvicultural system.—The system adopted in natural selection system under which only dead trees will be extracted. 94

Felling cycle.—A felling cycle of six years is prescribed. 95

Division into coupes.—Existing series and coupes have been continued. 96

Possibility.—An average yield of 30 tons of sandalwood is anticipated based on the average of the past 12 years. 97

Regulation of working.—Working will be regulated by area. 98

Agency of felling.—Extraction will be done departmentally. 99

Method of extraction.—Felling will be governed by the Sandalwood extraction rules in force. 100

Sequence of felling.—Sequence of coupes to be worked is given. 101

Details of coupes.—The limits and other details of the coupes are given in a tabular statement. 102

Artificial regeneration.—Sandal will be artificially regenerated in areas where it is less or absent. 103

Mode of formation.—Details of artificial regeneration methods are described. 104

Localities.—The localities suitable for raising sandal are given. 105

Special report on the work.—The continuance of the scheme will be decided by the Chief Conservator of Forests on a report to be submitted after five years. 106

Retail sales of sandal billets.—Sandal will be continued to be sold in retail in small quantity for bona fide domestic use. 107

Fire protection.—No special methods are prescribed. 108

Grazing.—Propagation centres will be closed to grazing for five years. 109

Control.—Control forms are prescribed. 110

CHAPTER III.—WORKING PLAN FOR THE VOLLAGE SANDAL WORKING CIRCLE.

Constitution.—The General constitution of this working circle is dealt with. 111

Exclusion of certain villages.—Certain villages are excluded from this working circle for reasons specified 112

Sandal in patta lands.—The legal position regarding sandal occurring on patta lands is dealt with. 113

Area.—The approximate area of this Working Circle is 14,500.07 acres. 114

Felling series.—Four felling series, as per details given, have been formed. 115

Objects of management.—The main objects of management of this Working Circle are (a) to exploit State-owned sandal trees occurring in patta lands, (b) to take effective steps to protect such trees, and (c) to purchase outright all privately-owned sandal trees, purely as a measure of protecting the States property of sandalwood. 116

Method of treatment.—Among the State-owned sandal trees, only dead trees will normally be extracted but even green trees may be extracted under special circumstances. 117

Sandal in excluded villages.—In excluded villages sandal may be extracted at any time when they are noticed in workable quantities. 118

Identification of Government trees.—Trees belonging to Government will be identified by working backwards on an assumed average annual increment of 5 inches. 119

Acquisition of private sandal.—The necessity for acquiring privately-owned sandal trees and the points to be considered while doing so are discussed. 120

Particulars. (1)	*Paragraph.* (2)
Payment for patta sandal trees.—Payments will be made to pattadars for the value of the sandal extracted and also for having protected the sandal. Necessity for early and immediate payments is emphasized.	121
Felling cycle.—A felling cycle of three years is prescribed.	122
Regulation of working.—An average annual yield of 22½ tons is anticipated working will be regulated by area.	123
Possibility.—An average annual yield of 22½ tons is anticipated.	124
Extraction regulations.—Rules regarding extraction of sandalwood are prescribed.	125
Payments for patta sandalwood.—Payments of patta sandal purchased, shall be made by a Gazetted Officer.	126
Statements of fellings to be made.—Description of coupes and the years in which they are to be worked are given.	127
Control.—Control books shall be maintained as prescribed.	128
CHAPTER IV.—FUEL WORKING CIRCLE.	
Constitution.—The General Construction of the Working Circle is given.	129
Distribution.—Six felling series have been constituted aggregating to 12,629 acres.	130
Character of vegetation.—The type of vegetative growth occurring in this working circle is described	131
Method of treatment.—The simple coppice system is prescribed.	132
Rotation.—A rotation of forty years is prescribed.	133
Regulation of working.—The working will be regulated by area.	134
Sale of sub-compartments.—One sub-compartment will be sold in each series each year.	135
Demarcation of sub-compartments.—The sub-compartments shall be demarcated by cut lines 6 feet in width wherever necessary. Certain prescribed trees in the sub-compartments which are to be reserved shall be enumerated.	136
Period of lease and agency of exploitation.—The sub-compartments shall be leased out to contractors for 12 months from 1st April.	137
Area coupes.—Coupes remaining unsold will be sold in the year following if there is demand.	138
Felling and extraction rules.—Felling and extraction rules are dealt with in detail.	139
Tabular statement of fellings.—Statement showing the areas and the sequence of Sub-compartments to be worked during the currency of this working plan is given.	140
Artificial regeneration.—No artificial regeneration will ordinarily be taken up. Special schemes for afforestation of dry fuel forests may be attempted if and when such schemes come into force.	141
Demarcation of compartments and sub-compartments.—Compartments and sub-compartments will be demarcated by cut lines of a width of 10 feet and 6 feet respectively, where natural features do not form their limits. Stones should be planted at salient points.	142
Grazing.—Worked coupes will be closed to grazing for a period of ten years including the year of felling. Acres to grazing grounds beyond such areas should be granted, through the closed areas.	144
Fire protection.—Nothing special is prescribed.	146
Supply of agricultural implements.—Agricultural implements for bona fide use of local ryots shall be supplied by the contractors at rates fixed by the District Forest Officer.	145
Charcoal manufacture.—Charcoal manufacture should not ordinarily be permitted inside Reserved forests.	146
Record of statistics.—The lessees will furnish monthly returns of produce removed from their limits.	147
Control.—Control records to be maintained are prescribed.	148
CHAPTER V.—SHANAR POLLARD WORKING CIRCLE.	
General.—This working circle is constituted to meet the large seasonal demands of fuel from January to June annually, by the Shannars living in the adjoining area.	149
Character of vegetation.—The type of vegetation, its density and quality are discussed.	150
Felling series.—Only one felling series is constituted.	151

Particulars. (1)	*Paragraph* (2)
System.—Lopping will be the mode of working.	154
Felling cycle.—A felling cycle of 12 years is prescribed.	155
Regulation of working.—The area will be regulated by area.	156
Demarcation of coupes.—Coupes will be demarcated by 6 feet wide lines in the month of November preceding the year of working.	157
Period of working and agency.—The area will be worked for six months from January to June and through department or leased out.	158
Felling rules.—No specific prescriptions are made.	159
Tabular statement of felling.—The details of coupes to be worked during the currency of the working plan are given.	160
Grazing.—Worked coupes will be closed for grazing for ten years including the year of felling.	162
Record of statistics.—Monthly removals should be recorded.	163
Control.—Control forms in the manner prescribed shall be maintained.	164
CHAPTER VI.—BAMBOO WORKING CIRCLE.	
General.—The general constitution of this working circle is given. The total of area of this working circle is 136,884 acres.	165
Bamboos for manufacture of paper pulp.—Recent stock mapping revealed that 12,189 tons of bamboo will be available from the Bargur Range for supply as raw material for a paper pulp factory if located, at Mettur Dam.	166
Statement of felling series.—The working circle is divided into 14 series, descriptive details of which are given in a statement.	167
Reservation of series and coupes.—Bamboos in certain series and coupes have been reserved for supply to the proposed paper pulp factory at Mettur Dam if and when it comes up.	168
Analysis of the coupes.—Details of stock mapping carried out are given.	169
Method of treatment.—Bamboos will be worked under a type of selection method.	170
Felling cycle.—The felling cycle of three years will be continued to be in force.	171
Felling rules.—Detailed felling rules are discussed.	172
Agency of fellings lease period.—The coupes will be working through contractors and the lease will be for one year from 1st April.	173 and 174
Statement of felling.—The sequence of coupes to be worked are given.	175
Grazing.—No specific restrictions are prescribed.	176
Fire protection.—No special means of fire protection are considered necessary.	177
Control.—Control records and record of works to be maintained.	178
CHAPTER VII—GRAZING WORKING CIRCLE.	
General constitution of the working circle.—The working circle includes all the areas of this tract except those which may be closed for the specific reasons mentioned.	180
Objects of management.—The objects of management are (i) to provide adequate grazing for the cattle of the locality and (ii) to improve the grazing facilities.	181
Regulation of grazing.—Grazing will be regulated by issue of permits.	182
Issue of permits.—Permits will be issued by Forest Officers as at present.	183
Grazing rates.—The existing grazing rates will be continued subject to modification from time to time.	184
Grazing year.—The grazing year shall be from 1st September to 31st August.	185
Penning.—Penning rates are Re. 1 per owner for 100 cattle or part thereof if penning is desired in one range or Rs. 1.50 if desired in more than one range. Range Officers will issue penning permits up to the capacity of each pen	186
Pen hygiene.—Essential requirements for pens hygiene will be followed.	187
Building sheds.—Licensees will be permitted to put up sheds in pens subject to the approval of the District Forest Officers.	188
Pens and their possibilities.—A list of pens and the maximum possibility of each is furnished.	189
Water facilities.—Improvement to existing water sources are suggested.	190

Particulars. (1)	Paragraph. (2)
Water sources.—A list of water sources in the locality is given.	191
Closing of pens due to fire, etc.—Pens shall be closed at the discretion of the District Forest Officer in case of fires.	192
Removal of grass.—Free removal of long grass on head-loads is permitted for bona fide domestic use in certain conditions and removal of grass on cart-loads is on payment.	193 and 194
Demarcation of closed area.—Closed areas will be demarcated prominently.	195
Control.—Control records shall be maintained as prescribed.	196
CHAPTER VIII—WORKING PLAN FOR THE MINOR FOREST PRODUCE WORKING CIRCLE.	
General constitution of the working circle.—The working circle comprises the entire division except tamarind, the other products in the unreserves and reserves will be extracted together. Ordinarily the entire range will form the unit of management except for tamarind where smaller units are prescribed.	197
System prescribed.—All Minor Forest Products except certain specified items will be extracted through the agency of contractors.	198
Detailed prescriptions.—Detailed prescriptions for the extraction of the different products are given.	199
Control.—The contractor will furnish monthly accounts of removals and the District Forest Officer shall maintain the control forms prescribed.	200 and 201
CHAPTER IX—MISCELLANEOUS REGULATIONS.	
Fire protections.—General and specific prescriptions are made regarding the fire protection methods to be adopted.	202
Buildings.—All departmental buildings will be maintained properly. Suggestions for construction of new buildings are made.	203
Roads.—Prescriptions are made for maintenance of and improvements to the existing roads and suggestions for construction of a new road is also made.	205 and 206
Water-supply.—Water-supply needs careful study and improvement wherever possible.	207
Working plan maps.—Certain working plan maps have been supplied.	208
Control maps and records.—The control maps and records are discussed in appendix.	209
CHAPTER X—ESTABLISHMENT AND LABOUR.	
The present position regarding establishment is satisfactory.	
CHAPTER XI—FINANCIAL FORECAST AND COST OF THE WORKING PLAN.	
Statements of estimated revenue and expenditure are furnished.	211
The details of cost of this working plan are given in paragraph 212.	212

APPENDIX I.

Rainfall statement for Thattakerai Station, Bargur Range, for the years 1943 to 1954.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1943	4·00	..	1·20	1·60	8·00	3·20	1·40	1·80	1·40	5·60	3·20	..	31·40
1944	..	0·08	2·80	1·20	4·4	3·6	2·0	2·8	7·0	12·5	9·0	6·6	52·70
1945	..	..	..	3·6	3·6	1·2	3·2	5·8	1·2	1·2	17·2	..	37·00
1946	..	..	..	..	2·40	2·40	—	8·4	12·0	12·0	8·4	0·8	46·40
1947	..	..	..	..	..	2·4	3·2	—	8·2	7·2	..	4·0	25·00
1948	1·80	..	..	1·40	4·20	..	..	..	5·30	2·40	5·20	1·00	21·30
1949	..	..	..	4·8	5·5	5·2	3·6	0·8	2·8	3·0	2·5	..	28·20
1950	..	1·6	..	..	1·9	1·0	—	..	3·0	..	..	..	7·50
1951	..	..	2·28	5·16	4·6	1·0	5·8	4·84	2·2	—	2·8	..	28·68
1952	..	..	..	..	..	..	..	..	..	..	..	..	..
1953	..	..	..	..	..	..	..	..	..	..	..	..	..
1954	1·2	..	0·8	1·6	..	1·2	1·6	3·4	0·4	16·0	..	2·6	28·80

Rainfall statement for Thamarakerai Station, Bargur Range, for the years 1943 to 1954.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1943	9·40	..	..	6·40	5·40	1·60	5·2	3·2	1·0	17·2	4·8	..	54·20
1944	..	1·2	0·6	4·4	6·4	3·2	—	4·6	3·8	6·0	7·4	3·6	55·20
1945	..	..	1·6	3·0	3·4	1·2	5·8	6·8	2·4	3·0	6·0	..	34·20
1946	..	..	1·60	..	2·00	2·00	..	3·2	5·2	12·8	10·0	2·4	39·20
1947	5·4	..	..	..	..	..	..	4·0	5·2	11·2	..	4·2	24·40
1948	0·40	..	..	0·80	1·40	..	..	0·60	0·20	..	0.80	..	3·80
1949	..	..	—	1·5	1·0	1·8	2·0	..	..	..	..	..	6·00
1950	..	..	..	..	..	..	..	..	..	..	..	..	..
1951	..	..	..	5·6	6·8	..	4·5	..	..	..	..	..	16·90
1952	..	..	..	..	..	..	..	..	..	..	..	—	..
1953	..	..	..	..	..	..	..	..	..	..	..	..	..
1954	..	..	..	..	2·5	0·2	1.2	2·7	0·4	3·6	0·8	1·0	17·50

APPENDIX II.

List of more common species found in the forests of Bargur Range with their Tamil names (local names).

Botanical name.	*Tamil name.*
Abrus pracatorius	Kundumani.
Acacia arabica	Karuvelam.
Acacia catechu	Karungali.
Acacia concinna	Checkoy.
Acacia ferrugina	Vanni.
Acacia intsia	Vellindu.
Ac-acia latronum	Kadivelam.
Acacia leucophloea	Velvelam.
Acacia pennata	Karuindu.
Acacia planifrons	Kdaivalan.
Acacia suma	Celai.
Acaci sundra	Chenkarumgali.
Acalypha frniticosa	Chinni.
Acrocarpus fraxinifolius	Malaikonnai.
Adina cardifolia	Manjakadambai.
Aegle marmelos	Vilvam.
Agava americans	Anaikathalai.
Ailanthus excelsa	Peenari, Peemaram.
Alangium lamarokii	Alinji.
Albizzia amara	Unjal.
Albizzia labbeck	Va-gai.
Albizzia odoratissima	Selavagai.
Allophyllus cobbe	Periyakudikai.
Anacardium occidentale	Munthiri, Andi.
Anogeissus latifolia	Vekkali.
Artocarpus integrifolia	Pila.
Atalantia monophylla	Kattu elumichai.
Azadirachta indica	Veppam.
Balsamodendron Berryi	Kiluvai.
Baubusa arundinacea	Perumungil.
Bassia latifolia	Kattu iluppai.
Bauhinia malabarica	Mantharai.
Bauhinia malabarica	Mantharai.
Bauhinia racemosa	Malaiathi.
Boswellia serrata	Kungiliam.
Bridilia retusa	Mullu vengai.
Buchanania latifolia	Sarai.
Butea frondosa	Palasu, Kattumuruku.
Calotropis gigantea	Yerukkan.
Canthium didymum	Thianai.
Canthium parviflorum	Kanai.
Capparis sapiaria	Thoratti.
Carya arborea	Ayma.
Carissa carendas	Kilakkai.
Carissa spinarum	Chiru kilakkai.
Cassia auriculata	Avaram.
Cassia fistula	Konnai.
Cassia Glauca	Tagarai.
Cassia clanea	Seenai konnai.
Cassia tora	Thangarai.
Celtis wightii	Vakkanai.
Chroxylon swietenia	Perasu.
Chukrasia tabularis	Agil.
Claistanthus collinus	Odugu.
Cochlospermum gossypium	Ilavam.
Cordia myxa	Narnvelli.
Cordia wallichii	Narnvolli.
Dalbargia latifolia	Itti.
Dalbergia paniculata	Pachchari.
Dendrocalamus strictus	Kal mungil.
Dorris scandans	Anaikatti kodi.
Dichrostachys cinerea	Vedathanai.
Diospyros embryopteris	Tuvara.
Diospyros melonoxylon	Karumthumbi.
Diospyros mentennu	Vakkanai.
Dodonea viscosa	Virali.
Dolichondron falcata	Kadalathi.
Elaeodentron glaucum	Kannir maram.
Erythrina indica	Kallyana murukku.
Erythrina suberosa	Murukkam.
Erythroxylon monogynum	Chembulichan.
Eugenia jambolana	Nage, Nerale.
Euphorbia antiquorum	Thirugukalli, Kalli.
Euphorbia tirucalli	Tirukalli.
Feronia elephantum	Vilam.
Ficus bengalensis	Alamaram.
Ficus gibbosa	Alavananji.
Ficus glomerata	Atta.
Ficus mysorensis	Kal alamaram.
Ficus religiosa	Arasa maram.
Ficus tomentosa	Kal athi.
Flaccourtia montchi	Cotha kilai.
Fluggea leucoprus	Veppalam.
Fluggea mycrocarpa	Pula.
Gardenia gummifera	Kambli pisin.
Cardenia turgida	Malankarai.
Ga-ruga pinnata	Arunelli.
Givotia rottleriforms	Butha-lai.
Gmelina arborea	Kumil.
Gmelina asiatica	Kumilan.
Grevia asiatica	Palica.
Grewia hirsuta	Tavidu.
Grewia laevigata	Narathai.
Grewia orbicula-ta	N-eychitti.
Grewia tiliaefolia	Thadasu.
Gymnosporia montanna	Kattanji.
Gyrocarpus jacquini	Tanaku.
Hardwickia binata	Achan.
Helicteres isora	Valampuri.
Hemid-smus indicus	Nannar
Hiptage madablata	Kalarai.
Holarrhena antidysenterica	Errukkalaipalai.
Holiga rn- a-rnothiana	Karuncarai.
Holopteleainlca tegrifolia	Aya
Ixora parvifolia	Chulundu.
Jasminum angustifolium	Kattu malligai.
Jatropha curcas	Musukkattai.
Jatroppa glandulifera	Adala-i.
Jatropha whitiana	Kattamanakku.
Kydia alycina	Vendekku.
Kigelia pinnata	
Lagerstroemia lanceol-ata	Venteak.
Lagerstrocmia parviflora	Neer ventekku.
Lantana camara	Nayunni.
Lawsonia alba	Marudonri.
Leucas aspera	Thumbai.
Limonia a-cidissima	Kattu elumichai.
Loranthus	Maraothi.
Loranthus longiflorus	Pulluruvi.
Maba buxifolia	Irumbalai.
Macaranga indica	Vetta kanni.
Mallotus philippinensis	Kannila.
Mangifera indica	Mamaram.
Melia dubia	Malaivembu.
Memecylon edule	Kayala.
Mimosa pudica	Thottal surungi.
Mimusops elengi	Alagu.
Morinda tinctoria	Manjanathi.
Mundulea suberosa	Kodu porasu.
Murrava konigii	Karuveppalai.
Ocimum sanctum	Thulasi.
Odina wodier	Anaikarai.
Opuntia dillenii	Sappattikalli.
Parkinsonia aculeata	Kattu Arasa [illegible] jai.
Pavetta indica	Pavattai, Thiani.
Phoenix sylvestris	I, Icham.
Phyllanthus emblica	Nelli.
Phyllanthus reticulata	Karunelli.
Pittosperum floribundum	Thammata.
Plumeria acutifolia	Kalliamantharai.
Poincia-na elata	Vadanarayanan.
Poniciana regia	Mayirkonnai.
Polyallthia cerasoides	Kodikilai.
Polvalthia longifolia	Asokam.
Pongamia glabra	Pungam.
Premna tomentosa	Kolakattaitekku.
Prosopis juliflora	Seemai Vanni.
Prot-ium candatum	Malai kiluvai, Mullu kiluvai.
Peidium guajava	Koyya.
Pterocarpus marsupium	Vengai.
Pterolobium indicum	Indu.
Randia dumetorum	Karai.
Ricinus communis	Amanakku.
Salmalia malabarica	Mul elavam.
Santalum album	Sandanam.
Sapindus emargianatus	Puchankottai.
Sapindus trifoliatus	Mani pungam.
Sarcostemma brevistigma	Kodi kalli.
Schliechera trijuga	Poovathi.
Scutia indica	Kakkaumullu.
Scutia myrtina	Churi mullu.
Semecarpus anacrdium	Serangottai.
Solanum indicum	Nai mulli.
Solanum pubescens	Chundai.
Soymida febrifuga	Sonai.
Spatholobus roxburghii	Anaipesin.
Spondias mangifera	Kattumavu.
Stephegyne parviflola	Neer kadambai.
Sterculia clata	Anai thondi.
Sterculia urens	Chendalai.
Sterculia nuxvomica	Ettimaram.
Strychonos potadorum	Tethangottai.

APPENDIX II—*cont.*

List of more common species found in the forests of Largur Range with their Tamil names (local names)—cont.

Botanical name.	*Tamil name.*	*Botanical name.*	*Tamil name.*
Tamarindus indica	Puliamaram.	*Vitex altissima*	Mayiladi.
Tectona grandia	Tekku.	*Vitex negundo*	Nochi.
Termina-lia arjuna	Neer mathi.	*Vitis quadrangularis* ..	Perandai.
Terminalia belerica	Thani.	*Webera corymbosa*	Therani.
Terminalia chebula	Kadukkai.	*Wendlandia notomiana* ..	Kadamban.
Terminalia paniculata ..	Pillamarudu.	*Wrightia tinctonia*	Palai.
Terminalia Tomentosa ..	Karimurudu.	*Zanthoxylum rhetsa*	Iraccai.
Thespesia populnea	Katt-ukolinji.	*Zizyphus jujuba*	Elanthai.
Toddalia aculeata	Kattmilagu, Milagaranai.	*Zizyphus oenoplia*	Chooraimullu.
		Zizyphus trinervia	Karukattam.
Trema orientalis	Amathalai.	*Zizyphus xylopyrus*	Kottai.
Ventilago madraspatana ..	Vembadam.		

APPENDIX III.

Control Records.

Control of *Reserve / Village* *Sandal Working Circle.*

Record of yield—

Total yield—

Range

Series

Year of working.	*Number of the coupe worked.*	*Area in acres.*	*Number of trees enumerated (including sap wood trees).*	*Total rough cleaned wood outturn.*			*Remarks.*
(1)	(2)	(3)	(4)	(5)			(6)
				TONS.	QRS.	LB.	

Reserve / Village *Sandal Working Circle.*

Control—
Record of works—

Range

Series

Prescribed			*Work actually done.*			
Year.	*Name of the coupe.*	*Area.*	*Number of coupe actually worked.*	*Year prescribed for working (if the coupe worked is not the one prescribed for the year).*	*Area worked.*	*Remarks.*
(1)	(2)	(3)	(4)	(5)	(6)	(7)

APPENDIX III—*cont.*

Reserve
——— *Sandal Working Circle*—**cont.**
Village.

Record of Yield.

Girthwar statement, series war.

Range

Series

Year.	*Coupe number.*	0″—6″	6″—12″	12″—18″	18″—24″	24″—30″	30″—36″	36″ *and over.*
		S CT Y	*S CT Y*	*S CT Y*	*S CT Y*	*S CT Y*	*S CT Y*	*S CT Y*

S = Sapwood trees.

CT = Complete trees.

Y = Yield of rough cleaned wood in lb. per tree obtained by dividing the total yield of rough wood in each class by the total number of complete trees. Incomplete trees should be excluded from the purview of this journal.

Total yield of sandal from both the Village and the Reserved Sandal Working Circle.

Bargur Range.

Year.	*Village series.*	*Reserve series.*	*Total [columns (2) + (3)].*	*Remarks.*
(1)	(2)	(3)	(4)	(5)

Fuel Working Circle.

Control of fellings.

Bargur Range.

Series—

Prescribed			*Work actually carried out.*				
Year.	*Sub-compartment.*	*Area.*	*Sub-compartment.*	*Year of working of the sub-compartment as per working plan.*	*Area as per working plan.*	*Area actually worked.*	*Remarks.*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

FUEL WORKING CIRCLE—cont.

Control record of yield.

Bargur range.

Series—

Year.	Sub-compartment.	Area: As per working plan.	Area: As per survey.	Area: Actually working.	Value realised: Rate per acre.	Value realised: Total.	Outturn: Fire-wood.	Outturn: Timber.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

SHAKAR POLLARD WORKING CIRCLE.

Control record of yield.

Bargur range.

Palamalai Felling series—

Year.	Coups worked.	Area: As per working plan.	Area: Actually worked.	Value.	Outturn: Tickets sold.	Outturn: Quantity removed.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

BAMBOO WORKING CIRCLE.

Control of fellings.

Bargur range.

Series—

Year.	Prescriptions of working plan: Compartment number.	Prescriptions of working plan: Area.	Work actually done: Compartment number.	Work actually done: Area.	Work actually done: Revenue realised.	Outturn: Variety.	Outturn: Quantity.	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

GRAZING WORKING CIRCLE.

Record of revenue.

Bargur range.

Ye	Total cow units sold.	Revenue realised.	Remarks.
(1)	(2)	(3)	(4)

Control.

Bargur range.

Year.	Area as per working plan.	Total area closed to grazing.	Effective area available for grazing.	Details of permits issued. Buffaloes		Cows		Sheep		Total revenue.	Remarks.
				Number.	Revenue.	Number.	Revenue.	Number.	Revenue.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)

MINOR FOREST PRODUCE WORKING CIRCLE.

Control record of yield.

Honey and wax, deer and sambhur horns and elephant tusks and bones (collected departmentally).

Bargur range.

Year.	Honey and wax		Deer and sambhur horns		Elephant tusks and bones		Total revenue [columns (3 + 5 + 7)].	Remarks.
	Yield.	Revenue.	Yield.	Revenue.	Yield.	Revenue.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

MINOR FOREST PRODUCE WORKING CIRCLE (TAMARIND).

Control Records of yield and revenue realized.

Bargur range.

Year.	*Bargur Farm*		*Mettur Farm*		*Total revenue [columns (3) and (5)].*	Remarks.
	Yield.	*Revenue.*	*Yield.*	*Revenue.*		
(1)	(2)	(3)	(4)	(5)	(6)	(7)

MINOR FOREST PRODUCE WORKING CIRCLE.

Control record of yield.

Bargur range.

Year.	*Gall nuts*		*Avaram bark*		*Konnai bark*		*Stone and tree moss*	
	Yield.	*Revenue realized.*	*Yield.*	*Revenue realized.*	*Yield.*	*Revenue realized.*	*Yield.*	*Revenue realized.*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Korai grass, etc.		*Other minor forest produce.*		*Total revenue realized columns [(3)+(5)+(7)+(9)+(11)+(17)].*	Remarks.
Yield.	*Revenue realized.*	*Yield.*	*Revenue realized.*		
(10)	(11)	(12)	(13)	(14)	(15)

APPENDIX IV.

Statements showing the cost of extraction of the more important forest products of the Bargur range sandalwood.

Extraction, rough cleaning and transport to Forest department—Rs. 60 per ton.

Transport to roadside depot—Rs. 5 per ton.

Transport to sale depot—Rs. 1·25 per ton **per mile.**

Bamboos (unit of 100).

Kind.	*Cost of extraction.*	*Cost of transit.*	*Royalty.*	*Overhead charges.*	*Total.*
	RS.	RS.	RS.	RS.	RS.
Karanni	2·50	1·75	0·25	0·25	3·75
Nathi	3·50	1·00	0·25	0·25	5·00
Petta	0·30	0·50	0·25	0·25	1·30

Fuel (per ton).

Felling.	*Transport.*	*Seigniorage.*	*Overhead charges.*	*Total.*	*Selling rate.*
RS.	RS.	RS.	RS.	RS.	RS.
5	6	4	6	21·00	30·00